East Renfrewshire Local Transport Strategy

Case for Change Report

Consultation Draft
September 2022

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1 Introduction

1.1 Overview

1.1.1 East Renfrewshire Council (ERC) is developing a refreshed Local Transport Strategy (LTS). The Case for Change report represents the first stage of the LTS development and presents evidence for public and stakeholder review on East Renfrewshire's transport systems and future priorities.

1.1.2 The LTS will replace the previous LTS (2008-2011) in order to provide an overarching framework for transport decision making and investment in the area over the next 10 years from 2023 to 2033.

1.1.3 The Case for Change draws upon wider national, regional and local policy objectives as well existing evidence, issues, opportunities and experiences relating to transport in the area.

1.1.4 Given the relatively small geographic extent of East Renfrewshire and the cross-boundary nature of the local transport network, the Case for Change will also consider the wider context aligned with Glasgow City Region aspirations.

1.2 Approach

1.2.1 The development of the Case for Change broadly follows a Scottish Transport Appraisal Guidance (STAG) approach. The key elements of a STAG based approach being utilised include:

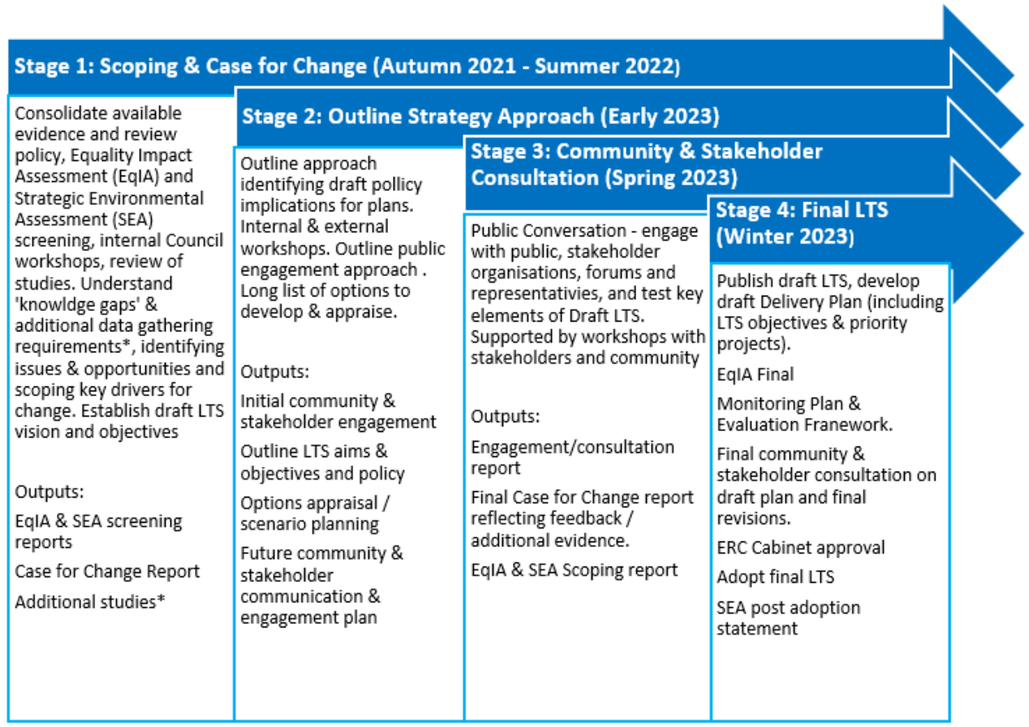
- Gathering evidence of problems to be tackled through research, analysis of data, engagement with stakeholders and the public
- Gaining consensus on the problems to be tackled in a new transport plan and the opportunities that can be built upon
- Developing outcomes for the transport strategy, and a set of transport planning objectives
- Responding directly to the problems we have identified
- Identifying alternative solutions to tackling the problems and meeting objectives
- Appraising those solutions against our objectives and STAG criteria

1.2.2 The Case for Change report includes key local, regional and national policy positions, as well transport insights from a range of sources and how this aligns with wider strategic objectives and priorities for action.

1.2.3 Crucially, the Case for Change report starts the process of recognising uncertainty around travel demand in the future, identifying key drivers of change, consider gaps in our understanding and proactively think about what steps we need to take now to deliver a future transport system.

1.2.4 Development of draft outcomes, together with scoping and stakeholder engagement, will enable a long list of possible solutions for further assessment and discussion. This will subsequently inform ERC's transportation policies and plans.

Figure 1: Approach to develop East Renfrewshire's Local Transport Strategy



1.2.5 The remainder of this report is structured as follows:

- Chapter 2: Policy Review
- Chapter 3: Area Profile
- Chapter 4: Consultation and Engagement
- Chapter 5: Active Travel Baseline
- Chapter 6: Public Transport Baseline
- Chapter 7: Roads and Traffic Baseline
- Chapter 8: Transport Equity
- Chapter 9: The Future Context
- Chapter 10: Problems, Issues, Constraints and Opportunities
- Chapter 11: Transport Planning Objectives
- Chapter 12: Next Steps

2 Policy Review

2.1 Context

2.1.1 Transport is defined as the movement of people or goods from one place to another. Although transport is more than just travel, it is mainly a means to an end and a demand derived from other activities; the need to get to work or education; to healthcare services; to purchase or move goods; to visit friends and family. Occasionally it can be an activity in itself, such as walking for leisure or the social value of public transport.

2.1.2 Transport can be an enabler. It helps activity to happen by providing access and connections to opportunities. Conversely this may be also act as a barrier, reflecting transport inequalities faced by some communities when accessing services, facilities and amenities.

2.1.3 Transport also influences how our places are shaped. This is in terms of urban development, enabling different types of movement and how various competing (and sometimes conflicting) demands on space are managed within the public realm.

2.1.4 As such, there is wide ranging policy which aims to improve the sustainability, equity, and efficiency of transport. This section outlines various policies, how they interact, and the how these may influence the operation and development of East Renfrewshire's transport system.

2.2 National Policy Drivers

National Transport Strategy 2

2.2.1 The new National Transport Strategy for Scotland (NTS2) was launched in February 2020. The NTS sets out the Government's strategy and objectives for the transport network in Scotland.

2.2.2 With an increased focus on the social, economic and environmental impacts of transport, as well as an emphasis inclusive growth and greater equality (as set out in the Government's Economic Strategy), the ambition of NTS2 is for a society that offers greater equal opportunities and ensures that access and benefits are fairly shared. Specifically, a vision that:

"We [Scotland] will have a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors.

2.2.3 The NTS2 emphasises the need for climate resilience and highlights the role of sustainable transport in terms of public health and community place making.

2.2.4 The four NTS2 priorities to achieve this vision are:

Table 1: NTS 2 Priorities and Outcomes

Priority	Outcome
Reduces inequalities	Will provide fair access to services we need
	Will be easy to use for all
	Will be affordable for all
Takes climate action	Will help deliver out net-zero target
	Will adapt to the effects of climate change
	Will promote greener, cleaner choices
Helps deliver inclusive economic growth	Will get people and goods where they need to get to
	Will be reliable, efficient and high quality
	Will use beneficial innovation
Improves our health and wellbeing	Will be safe and secure for all
	Will enable us to make healthy travel choices
	Will help make our communities a great place to live

2.2.5 These objectives are very relevant to the development of the LTS in terms of wider vision, priorities and outcomes for Scotland's transport system moving forward.

Update to the Climate Change Plan: 2018 – 2032

2.2.6 In December 2020, the 2018 Climate Change Plan was updated to set new targets to end Scotland's contribution to climate change by 2045. To do so, the Plan set out commitments to:

- Reduce emission by 75% by 2030 (compared with 1990); and
- Be net zero by 2045

2.2.7 The policies and actions in the updated plan are set on a sector-by-sector basis to thus create a co-ordinated approach across the whole of society. For transport, most of the actions are aligned to NTS2, with a key focus on demand management, modal shift and technological advances within the transport system. Specific commitments include:

- A reduction in car kilometres by 20% by 2030
- The phasing out of new petrol and diesel cars and vans by 2030
- All public bodies to have phased out the need for new petrol and diesel light commercial vehicles by 2025
- The decarbonisation of Scotland's rail services by 2035
- £500million investment in active travel projects

2.2.8 These commitments are relevant to the LTS, as they will help shape both aims and the approach to data gathering and analysis, in particular the reduction of car kilometres and phasing out of petrol / diesel vehicles.

National Planning Framework 4 (NPF4) Draft

2.2.9 The draft National Planning Framework was published in November 2021. Despite undergoing consultation processes at the time of writing, the document still provides vital information on how development will be directed to help Scotland reach net zero by 2045 and achieve the framework's objectives of creating:

- Sustainable Places where we reduce emissions and restore and better connect biodiversity
- Liveable Places where we can live better, healthier lives
- Productive Places where we have a greener, fairer, and more inclusive well-being economy
- Distinctive Places where we recognise and work with our assets

2.2.10 The draft NPF4 outlines plans and national developments across five areas of Scotland. East Renfrewshire is located within the *central urban transformation area*. Subsequent transport-based actions to achieve the above objectives include:

- **13. Pioneer low-carbon, resilient urban living:** Primarily comprises of a focus upon 20-minute neighbourhoods and a transition from car-based design to the delivery of active travel networks.

- **21. Improve urban accessibility:** Focuses on growing opportunities for longer term remote working and addressing the high levels of private car by promoting local living via 20-minute neighbourhoods and creating affordable, access transport connections between communities (e.g. the Glasgow Metro).

2.2.11 The above aims / actions are relevant to the LTS as they will help influence land-use development in the area over the next 25 years. Specifically, the aims / actions of the LTS will need to ascertain how East Renfrewshire's transport system can help promote and respond to the development of 20-miniute neighbourhoods specifically and 'living well locally' ambitions more generally.

Strategic Transport Projects Review 2 (STPR2)

2.2.12 The second STPR takes a 20-year view for investment in transport in Scotland. It will appraise transport infrastructure interventions following an evidence-based approach. The review takes a national overview but contains a regional focus.

2.2.13 It will be important to take cognisance of STPR2 to identify those transport interventions or infrastructure improvements that could influence future travel, particularly on a strategic level.

2.2.14 In total 45 STPR 2 recommendations were published in February 2021. Key themes and recommendations include, but are not limited to:

- **Improving active travel infrastructure:** includes development of connected neighbourhoods, active freeways and long distance active travel network
- **Influencing travel choices and behaviours:** incorporates behaviour change initiatives, improving access to bikes and expanding 20mph limits & zones
- **Enhancing access to affordable public transport** includes development of Clyde Metro, investment in Demand Responsive Transport and Mobility as a Service, and creating a framework for delivery of mobility hubs
- **Decarbonising transport:** contains the rapid decarbonisation of passenger and freight transport, reduction in vehicle usage and reduced demand through shorter / fewer trips
- **Increasing safety and reliability on the road network:** focuses on tackling challenges associated with the operation of a safe and reliable motorway and trunk road network (e.g. haulier refuge facilities)
- **Strengthening Strategic Connections:** interventions which support NPF4 proposals and facilitate movements through Scotland's major gateways

2.2.15 The above interventions have the potential to support substantial mode shifts within East Renfrewshire, influencing how people access employment, services and leisure destinations. As such, this should be considered within the upcoming LTS. More details on the long-term impact of schemes which are relevant to East Renfrewshire is presented in Chapter 9.

Reducing car use for a healthier, fairer and greener Scotland: A route map to achieve a 20 per cent reduction in car kilometres by 2030 (Draft)

2.2.16 Released in January 2022, the draft document outlines a route map to achieving the Climate Change Plan update's commitment to reducing car kilometres by 20% by 2030.

2.2.17 The document does not stipulate specific geographical reduction targets; instead, it argues that a national shift in travel behaviours is required. A framework of sustainable travel behaviour was developed to do this:

- **Reducing the need to travel:** such as by using online option to access good, services, amenities and social connections
- **Living well locally:** by choosing local destinations which can make it easier to switch to more sustainable modes and will reduce distances driven if a car is still used
- **Switching Modes:** to walk, wheel, cycle or public transport where feasible
- **Combining or sharing car trips:** with another person (in line with prevailing public health guidance) if car use remains the only feasible option

2.2.18 The overall aim of the framework is to empower people to choose an option that fits their circumstances and travel needs. Consequently, a route map of actions was developed to support each of the above four behaviours. This is outlined in Figure 2. Further discussion is presented in Chapter 9.

Figure 2: Car km Reduction Route Map Actions

A Network Fit For The Future: Draft Vision for Scotland's Public Electric Vehicle Charging Network (Draft)

2.2.19 Although the Scottish Government aspire to reduce overall reliance on car, a wholescale shift to zero emissions vehicles over the coming decades is required to reach net zero ambitions. To help achieve the transition, Transport Scotland published a draft document in January 2022 outlining a vision for future electric vehicle charging infrastructure in Scotland. The draft vision aspires that:

- People have access to a well-designed and comprehensive public network of charge points.
- The public electric vehicle network works for everyone regardless of age, health, income or other needs.
- Scotland has attracted private sector investment to grow the public electric charging network, ensuring it meets the needs of all people.
- The public charging network is powered by clean, renewable energy and delivers benefit from advancements in energy storage, smart tariffs and network design.

- People's first choice wherever possible is active and public transport with the location of electric vehicle charging points supporting those choices.

2.2.20 The report states that Scotland is currently approaching a 'tipping point' for zero emission vehicle uptake, and outlines that the increased adoption of electric vehicles will accelerate growth in public charging networks. These changes will alter the role and nature of government intervention within the network's development and see a shift towards a public charging network largely financed and operated by the commercial sector.

2.2.21 Although, it should be stated that the public sector will continue to play a role in the development and co-ordination of the network through public-private partnerships. These partnerships will ensure that the private market does not exclude any sections of society and most importantly, will play a key enabling role for investment at the current stage of the electric vehicle transition.

2.2.22 Consequently, the LTS should consider how best to enable these public-private partnerships with a long-term view of how the private sector can support future development of the public charging network.

Other Key Drivers (National)

2.2.23 Other key guiding policies and areas of focus relevant to LTS development include:

Table 2: Other National Policy Drivers

Policy	Description
Active Travel Framework	The Active Travel Framework brings together the key policy approaches to improving the uptake of walking and cycling in Scotland. Supports 2030 Vision that "Scotland's communities are shaped around people, with walking or cycling the most popular choice for shorter everyday journeys"
Scotland's Road Safety Framework to 2030	Sets out a vision for Scotland to have the best road safety performance in the world by 2030 and outlining a safe systems approach to road safety delivery whilst recognising wider strategic priorities including health, sustainability and equality.
Programme for Government (2021 to 2022)	Outlines Scottish Government's key actions for the parliamentary year and beyond, including greater emphasis on a green, sustainable and active transport system. Includes commitments to decarbonise transport, introduce free bus travel to young people aged under 22, commission a Fair Fares Review to ensure a sustainable and integrated approach to transport fares and that at least £320 million or 10% of the total transport budget goes on active travel by 2024-25.
Infrastructure Commission for Scotland (2020)	Set out an overall 30-year vision for infrastructure to support and enable an inclusive net zero carbon economy and establish short and longer-term actions. Recommendations include the prioritisation of existing infrastructure assets to ensure these are most effectively and efficiently utilised, maintained and enhanced to net zero carbon readiness, accelerating the decarbonisation of heat and transport and the ongoing development of digital services including delivery of a full fibre network for Scotland by 2027
Just Transition Commission: A National Mission for a fairer, greener Scotland (2021)	Includes 24 headline recommendations including • Scottish Government, Local Authorities and Developers must commit to creating communities that embed low-carbon lifestyles, while improving our health and wellbeing • Ensure sufficiently developed roadmaps exist for the net zero transition in Scotland, including for key technology options • Implement Green Participatory Budgeting with agreed target levels of funding
Scotland's Accessible Travel Framework (2016)	Vision: All disabled people can travel with the same freedom, choice, dignity and opportunity as other citizens. • **Outcome 1**: more disabled people make successful door-to-door journeys, more often • **Outcome 2:** disabled people are more involved in the design, development and improvement of transport policies, services and infrastructure. • **Outcome 3:** everyone involved in delivering transport information, services and infrastructure will help to enable disabled people to travel.
	• **Outcome 4**: disabled people feel comfortable and safe using public transport – this includes being free from hate crime, bullying and harassment when travelling
Equality Act Scotland, Fairer Duty Scotland, Child Rights etc	The public sector equality duty requires public bodies to have due regard to the need to eliminate discrimination, advance equality of opportunity and foster good relations between different people when carrying out their activities. This includes wellbeing Impact Assessment and due regard for Human Rights

2.2.24 Table 2 outlines how national policy ambitions seek to make Scotland's transport systems, greener, safer, and more equitable. As such, the LTS's objectives and options should reflect these ambitions to ensure that East Renfrewshire's transport system aligns with wider societal goals.

2.3 Regional Policy

ClydePlan

2.3.1 ClydePlan was approved in July 2017 and replaces the Glasgow and Clyde Valley Strategic Development Plan (SDP). The plan covers eight local authorities of which East Renfrewshire is one, with the principal role of preparing and maintaining an up-to-date Strategic Development Plan (SDP) for the Glasgow City Region. The policy context for SDPs is set out in Scottish Government's National Planning Framework (NPF) and Scottish Planning Policy.

2.3.2 The current SDP was based around the four NPF3 planning outcomes, namely:

- a successful and sustainable place
- a low carbon place
- a natural, resilient place
- a connected place

2.3.3 ClydePlan has informed the development of the East Renfrewshire's Local Development Plan 2 and other relevant local planning policies, to ensure consistency in approach and working towards the goal of delivering against the NPF3 planning outcomes (which were still considered relevant at the time of its publication).

Glasgow City Region Deal

2.3.4 The City Deal is an agreement between the UK Government, the Scottish Government and eight Local Authorities across the Glasgow Region.

2.3.5 The £1.13 billion Glasgow City Region Deal infrastructure fund supports a programme to deliver a step change in the economic potential of the region and drive long-term growth. This includes support for improved transport infrastructure and connectivity across Glasgow and the Clyde Valley.

2.3.6 The City Region Deal is at the core of shaping local policies, including the East Renfrewshire LDP2, via linkages between ClydePlan and each of the Council's City Deal Projects. ERC will continue to work in partnership with neighbouring authorities to ensure that opportunities for economic growth and creation of sustainable patterns of development and infrastructure needs, such as major new roads infrastructure and green networks are planned collaboratively across boundaries to deliver inclusive growth across the region.

2.3.7 Current transport-related City Deal projects within East Renfrewshire include:

- **Balgraystone Road Improvements (complete):** Network improvements to unlock residential / regeneration opportunities within Barrhead and improve access to the Dams to Darnley Country Park and proposed new rail station.

- **Aurs Road (in progress):** Realignment of Aurs Road to provide a more direct route between Newton Mearns and Barrhead and enable a new bus route and active travel link between the two communities.
- **New Railway station at Barrhead South (in progress):** Improved access for existing / future residents in the Auchenback area
- **Newton Mearns to Barrhead Road Connection (deferred):** Aims to identify a new route to connect Newton Mearns and Barrhead, in order to improve access to the M77 motorway**.** In 2021 the Glasgow City Region cabinet agreed to ERC's request to delay a link road, which is now a "longer-term" focus.

2.3.8 The outcomes of the Regional City Deal can influence investment and travel demand in the area. These should be considered within the development of the LTS and how these may best support necessary modal shift while facilitating inclusive and sustainable economic growth. Information on the impact of these schemes can be found in Chapter 9.

Strathclyde Partnership for Transport (SPT) Regional Transport Strategy (Draft)

2.3.9 An outcome of The Transport (Scotland) Act 2005 placed a statutory duty on the seven Regional Transport Partnerships to produce a Regional Transport Strategy (RTS) for their region. SPT are currently developing their new RTS which will provide important context for the proposed LTS.

2.3.10 The new RTS vision outlines that the west of Scotland will be an attractive, resilient and well-connected place with active, liveable communities and accessible, vibrant centre facilitated by high quality, sustainable and low carbon transport shaped by the needs of all. RTS priorities include:

- a healthier environment, supported by a transport system that helps our region become a low carbon place with healthier natural and built environments for the benefit of all.
- inclusive economic growth, supported by a transport system that supports the regional economy to develop and grow with better opportunities and fairer outcomes for all.
- improved quality of life, supported by a transport system that helps everyone to have better health and wellbeing and lead active, fulfilling lives.

2.3.11 Key Targets by 2030 include:

- Car kilometres in the region will be reduced by at least 20% in line with national targets
- Transport emissions will be reduced by at least 56% from the 1990 baseline in line with national climate change targets for transport.
- At least 45% of all journeys will be made by means other than private car as the main mode of travel.

2.3.12 In response to key issues identified within the RTS Case for Change report, corresponding strategy objective have been developed:

Table 3: Regional Transport Strategy Issues and Objectives

Issue	Objective
Access for all	To improve accessibility, affordability, availability and safety of the transport system, ensuring everyone can get to town centres, jobs, education, healthcare and other everyday needs
Transport Emissions	To reduce carbon emissions and other harmful pollutants from transport in the region
Active Living	To enable everyone to walk, cycle or wheel and for these to be the most popular choices for short, everyday journeys
Public Transport Quality & Integration	To make public transport a desirable and convenient travel choice for everyone
Regional Connectivity	To improve regional and inter-regional connections to key economic centres and strategic transport hubs for passengers and freight

2.3.13 The LTS should consider and reflect these ambitions and forthcoming RTS policy positions to ensure that East Renfrewshire's transport system compliments wider regional objectives.

Other Key Drivers (Regional)

2.3.14 Other key guiding policies and areas of focus relevant to LTS development include:

Table 4: Other Regional Policy Drivers

Policy	Description
Glasgow City Region Economic Action Plan	The GCR Economic Strategy and Action Plan, which covers the period 2017- 2035, puts Inclusive Growth at the centre of all activity. The plan represents a considerable regeneration opportunity for the region to boost long-term economic growth. The strategy and action plan build on existing collaboration across a number of services in order to achieve its 11 objectives, including a focus on health, transport and strategic planning and strong employment and educational and cultural links. To maximise the potential of key GCR economic assets a Glasgow City Region Strategic Transport Plan will be developed in collaboration with SPT and Transport Scotland. This plan will set out improvements to the links between the communities, jobs and learning opportunities.
Glasgow Connectivity Commission	An independent Glasgow Connectivity Commission was established in November 2017 upon the request of Glasgow City Council. It provided recommendations on how to improve connectivity within the city and across the region, these include: • The repurposing of Glasgow's road grid to prioritise pedestrians, active travel and public transport. This should be aligned with and support policy to repopulate the city centre • The completion of a network of safe, high quality, segregated cycling arterial routes connecting the city centre to suburbs and peripheral neighbourhoods • Bus priority • Better monitoring of traffic volumes and speeds on Glasgow's local road network • Creation of a comprehensive Glasgow Metro for the city • Bus priority measures on Glasgow's motorway network • 20 year funding package agreed between UK, Scottish Governments and regional & local authorities
Glasgow Clyde Valley Green Network - The Blueprint	The Blueprint is a framework for the creation of a strategic Green Network for the benefit of people and wildlife in Glasgow City Region. It incorporates the fundamental functions of a Green Network: • **A Strategic Access Network**: facilitating the off-road movement of people around and between communities through Green Active Travel routes and greenspace • **A Strategic Habitat Network:** facilitating the movement of wildlife through the landscape
Flooding / Drainage Strategies	Flood Risk Management Plans reflect a general duty to avoid and reduce overall flood risk as well as manage surface water drainage. The Metropolitan Glasgow Strategic Drainage Partnership 2060 vision aims to transform how the region manages rainfall and improve water quality. Guiding principles include enhancement of urban biodiversity, development of blue – green networks, and climate change resilience (including integrated and sustainable urban drainage design).

2.3.15 Table 4 illustrates how regional policy ambitions seeks to support increased inclusive economic growth and development of new and improved transport networks for the Glasgow City region. As such, LTS should consider these aspirations within the development of objectives and future options.

2.4 Local Policies

Local Transport Strategy (2008-2011)

2.4.1 The previous East Renfrewshire LTS identifies a number of transport related issues that remain relevant. This includes high levels of car ownership (as well as disparities in car ownership) across the authority, congestion at peak times (a particular issue around schools) and deficiencies in public transport provision.

2.4.2 In response, the 2008 LTS identifies a number of objectives to address historical transport issues which are considered relevant to the new LTS, namely:

- Reduce the need to travel and stimulate sustainable economic development in the local area.
- Reduce car dependency and stimulate modal shift to walking, cycling and public transport.
- Enhance access to jobs and services by a variety of modes of transport for all members of society.
- Reduce the negative environmental impacts of transport.
- Reduce congestion on all transport modes and services.
- Enhance integration and efficiency of transport networks, infrastructure and services.
- Promote awareness of alternatives to the private car.
- Maintain roads and other transport infrastructure in a condition that ensures it is fit for purpose.

2.4.3 The old LTS proposes a strategy that focuses on 5 key themes:

- **Modal Shift & Demand Management:** Encouraging modal shift from cars to more sustainable alternatives like walking, cycling and public transport along with associated demand management measures, if necessary, to help reduce car use.
- **Transport & Land-use**: Greater integration between transport and land-use will reduce the need to travel and encourage local economic activity.
- **Accessibility & Social Inclusion**: Improvements to accessibility will facilitate social inclusion for people who experience barriers to transport.
- **Network Management:** This is important to ensure safe, efficient and effective operation of the existing transport network.
- **Environment**: The relationship between transport and the environment and how these issues can be reconciled.

2.4.4 The extent to which these remain relevant will be considered during LTS objective and option development. As such, the LTS should reflect East Renfrewshire's historical ambitions of supporting modal shift, sustainable land use development and improving accessibility.

Local Development Plan 2 (LDP2)

2.4.5 The East Renfrewshire LDP2 was approved in October 2019 and is the Council's key strategic land use planning document. The key purpose of the plan is to set out a long-term strategy and a policy framework to guide future development to support sustainable and inclusive economic growth. This strategy will be achieved by meeting the following objectives:

1. Creating Sustainable Places and Communities
2. Promoting Sustainable and Inclusive Economic Growth
3. Promoting a Low Carbon Place

2.4.6 To reflect Spatial Objective 1, the Proposed Plan sets out key policies recognising the contribution of active and sustainable transport networks towards the creation of a more attractive, sustainable, safer and well connected place. This includes:

- The provision of a safe, efficient and sustainable transport system which facilitates access to homes, employment, education, recreational facilities, to the town centres and across the Council area is essential in realising future growth and social inclusion, as well as delivering sustainability and health and wellbeing objectives.
- Maintain and improve connectivity both within East Renfrewshire and promote high quality transport and digital links and networks to the wider Clydeplan Region and beyond, in order to attract investment and support access to jobs and services and to address any deficiencies in provision
- Continue to work closely with partners and neighbouring authorities to help protect and improve existing bus and rail services and routes, improve roads, public transport and active travel opportunities and ensure that infrastructure needs are planned for collaboratively across boundaries.
- The Council supports the principles outlined in the Scottish Government's long term vision for active travel in Scotland (2030) that communities are shaped around people, with walking or cycling the most popular choice for shorter everyday journeys. This helps people make healthy living choices and assists in delivering places that are happier, more inclusive and equal, and more prosperous.
- Electric vehicles are a key measure in reducing carbon emissions and therefore the provision of infrastructure to facilitate and stimulate this change is essential.

2.4.7 It should be noted that, as a result of the Scotland Planning Act 2019, the timescale for producing LDPs is to change from a 5 year to 10-year cycle. This is likely to have a bearing in respect of future commitments and allocations, particularly when new transport provision may be required to support development.

2.4.8 The LTS will therefore consider the role of transport in the creation of a more attractive, sustainable, safer and well connected place, and how this best supports wider sustainability and health and wellbeing objectives

2.4.9 Further details about the land-use proposals contained within the LDP2 are set out within Chapter 9.

East Renfrewshire Active Travel Action Plan

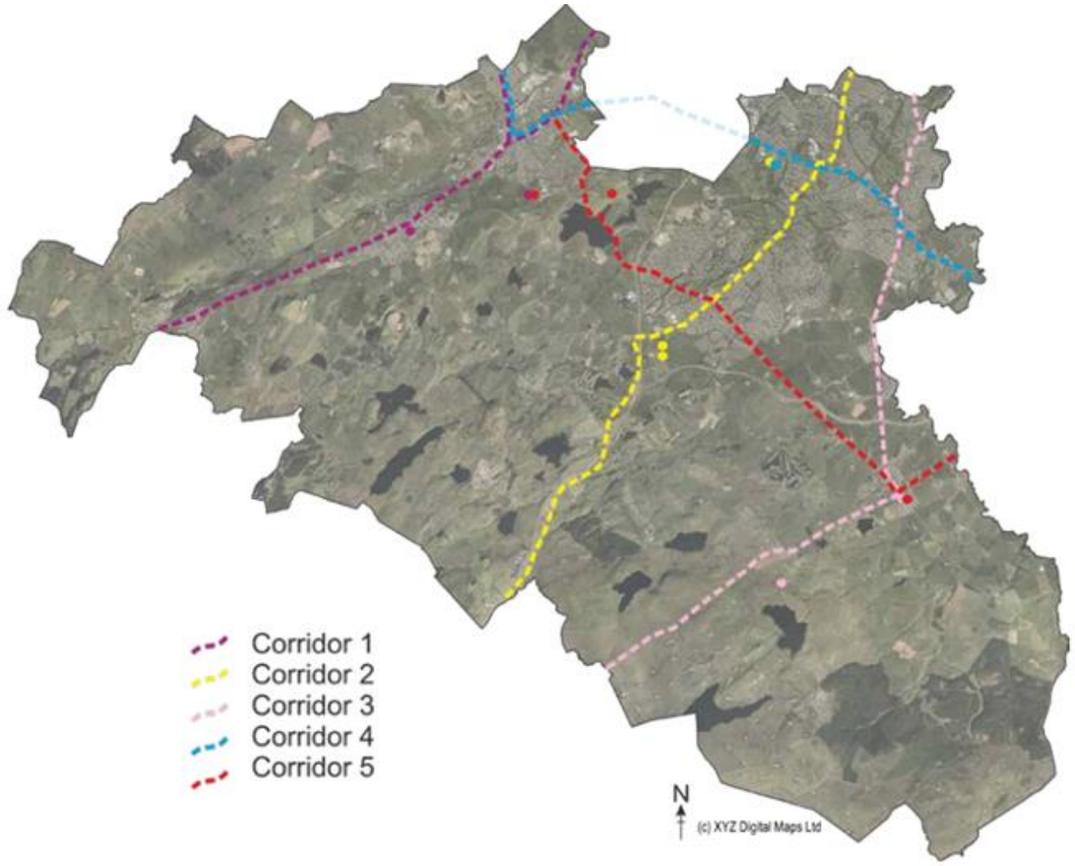
2.4.10 ERC published the Active Travel Action Plan (ATAP) for the area in 2015. This document outlines priorities for increasing active travel throughout East Renfrewshire. Key objectives include:

- Increase Active Travel to School
- Improve Connections to Public Transport
- Increase Active Travel to Work and key destinations
- Local Projects that support Walking and Cycling
- Increase Active Travel for Recreation

2.4.11 Data captured from resident survey informed three key areas of focus - **Infrastructure, Behaviour Change and Monitoring.** Subsequently, 25 actions were created to facilitate an increase in active journeys in East Renfrewshire.

2.4.12 A key action from the ATAP includes feasibility and technical design for 5 Strategic Cycle Corridors. These are to be planned and provided primarily as segregated and off-carriageway facilities and supplement local cycle routes to provide a cohesive and coherent cycling network. Delivery of these corridors is therefore likely to be a key consideration over the period of the new LTS.

Figure 3: East Renfrewshire Strategic Cycle Corridors [1]



East Renfrewshire Community Plan

2.4.13 In 2018 East Renfrewshire Community Planning Partnership produced a Community Plan that sets out high level ambitions for the next 10 years on how local services will work in partnership to create stronger and fairer communities together with the people of East Renfrewshire. The plan reflects the most important priorities highlighted by the residents of East Renfrewshire and acts as a mechanism for the delivery of agreed outcomes.

2.4.14 At the core of the Community Plan is the concept of a 'Fairer East Ren', which is the Local Outcome Improvement Plan for the area. The focus of this plan is the reduction of inequality across groups and communities in East Renfrewshire. Each of these specific inequalities will have their own respective strategies.

2.4.15 The 5 strategic priorities of the Community Plan include:

1. All children in East Renfrewshire experience a stable and secure childhood and succeed
2. East Renfrewshire residents are healthy and active and have the skills for learning, life and work
3. East Renfrewshire is a thriving, attractive and sustainable place for residents and businesses
4. East Renfrewshire residents are safe and live in supportive communities
5. Older people and people with long-term conditions in East Renfrewshire are valued; their voices are heard; and they enjoy full and positive lives.

2.4.16 The Fairer East Ren plan focuses on actions to reduce inequalities in the area. Key outcomes of the plan considered relevant in the development of a new LTS include:

- Residents are as healthy and active as possible
- East Renfrewshire's transport links are accessible, attractive and seamless

Locality Plans

2.4.17 There are currently two East Renfrewshire locality plans in place, both in Barrhead, with a focus on targeting inequalities within the communities concerned. Both plans are the result of a community focused and led process of identifying needs and priorities, as well as taking account of the socio-economic evidence for the areas and previous engagement work.

2.4.18 The Auchenback Locality Plan 2017 – 2027 identified several priorities across eight key themes. Those with most relevance to the Local Transport Strategy include:

- Traffic calming measures
- Improved parking provision
- Better lighting in streets and parks
- Improvements to pathways
- Improved Public Transport including frequency, availability and affordability

2.4.19 The proposed outcomes of the Locality Plan to address the priorities above include ensuring public transport meets the needs of residents and to address the safety concerns around traffic, parking, and pathways in to enable residents to move around safely and meet community needs.

2.4.20 The second Locality Plan covers Dunterlie and Dovecotehall 2017 – 2027. In much the same vain as the Auchenback Plan, the community was asked to identify priorities / aspirations for improvements in the local community grouped by theme, including:

- Better transport links between Eastwood and Barrhead
- Improved local public transport timetables
- Repair and create new cycle path network
- Upgrade and repair potholes on pavements and roads, ensuring low level access to pavements and paths for people with disabilities
- Addressing parking issues such as increasing off-street parking, obstructions caused by poor parking
- Improved street lighting in and around public walkways and footpaths
- Better traffic calming measures in local communities to improve road safety

2.4.21 The proposed outcome from the plan is to ensure that the Dunterlie and Dovecotehall communities are accessible as a result of reliable and well-connected transport services, pathways and sustainable networks. This also highlights the key deficiency in respect of west / east movements across the Local Authority, a legacy of radial traffic routes leading to and from Glasgow and issues relating to east –west severance.

2.4.22 Furthermore, development of two further Locality Plans in Neilston and Thornliebank are in progress and planned respectively, with further transport related issues and actions likely to emerge through this process.

Other Key Drivers (Local)

2.2.16 Key guiding policies and areas of focus relevant to LTS development include:

Table 5: Other Local Policy Drivers

Policy	Description
East Renfrewshire Transport Response to COVID-19	Recognising the importance of transport to the development of plans to help East Renfrewshire residents adapt and renew in response to COVID- 19, this includes Key Principles and phased approach to plans, including development of temporary COVID Response Measures.
Get to Zero ambition statement and action planning approach	Following a declaration of a climate emergency in October 2021, ERC cabinet approved an Ambition Statement and how ERC intend to move from a high level action plan to a detailed route-map to 'net zero' in relation to greenhouse gas emissions. This outlines a number of guiding principles, values and areas of focus including; Carbon Reduction, Climate Preparedness and Reduce Inequalities. These are relevant to transport policy development as well as future management of council Roads and Openspace Assets.
East Renfrewshire Economic Development and Inclusive Growth Strategy 2022-2027 (draft)	This strategy sets out the commitment from ERC and Community Planning Partners to ensure a strong, inclusive, competitive, resilient and outward looking economy for the East Renfrewshire area. By focusing on economic development initiatives and ensuring inclusive growth for our communities, the strategy strives to protect and enhance the local economy now and for the future. Developing the local economy through, for example, access to increased job opportunities, the support of innovation and business, and the creation of opportunities for higher wealth, improves the economic and social well-being leading to an overall better quality of life. The strategy aims to respond to big future challenges: the climate emergency, inequalities, health and wellbeing, inclusive growth, inequalities and community empowerment. This seeks to create a more equitable community where income gaps are reduced and services are accessible to all as well as responding to the net zero agenda.
Equality and Human Rights; Mainstreaming Report	Outlines ERC's equality and human rights approach, including progress and future actions. • **Outcome 2**: Minority ethnic, disabled and younger residents are able to access services and feel connected to their communities. Key critical activities include "ensuring good physical access to services, including accessible buildings and accessible transport links" and "Improving active travel to allow young people to move across the authority"
Sport & Physical Activity Strategy (draft)	• **Strategic Outcome** - We improve our active infrastructure - people and places • **Intermediate Outcome 1** - We will build an active East Renfrewshire through supporting walking and cycling and putting active travel at the heart of our efforts • **Intermediate Outcome 2** - We will ensure East Renfrewshire's natural environment provides opportunities for increased levels of physical activity for everyone.
State of the Environment Report 2019	This report provides a range of environment data focused on 9 environmental topics including Transport. Each subject has a range of objectives, aimed at providing a means to identify trends in data and ultimately assess whether there are any positive or negative environmental trends. The intention is for this report to form the foundation of strategic environmental assessments undertaken for the LDP2 and any supporting documents. Identified environmental issue relating to Transport is the need to reduce travel by private car and encourage travel by more sustainable modes including walking, cycling and public transport. Associated Environmental Objectives therefore include "Reduce the need to travel & Promote sustainable transport modes".
Local Action Plan / Local Place Plans	The purpose of these plans is to provide a steer for future capital projects and support future funding opportunities. These plans will help make town centres and neighbourhoods more active, attractive and accessible. Specific interventions could include environmental improvements, making better use of land and existing buildings, improving access and active travel networks. Plans for these interventions will be based on principles of community empowerment.
Fleet Asset Management Plan	The Fleet Asset Management Plan aims to comply with 2025 and 2030 legislation on carbon emission requirements on different vehicle classes and ensure that the Council Fleet is fully utilised.
Openspace Asset Management Plan	The Open Space Asset Management Plan has as its core aim, to provide fit for purpose open space assets that meet the needs of communities. It also aligns the development and maintenance of open spaces with climate change, planning and leisure policy objectives. This plan does not however identify the role of local path networks in supporting local transport objectives.

2.4.23 Table 5 highlights a range of broad and interlinked plans and policies influencing future transport plan development. The objectives of these policies should be incorporated in the development of the LTS.

Summary

2.4.24 Key strategic transport objectives must be interlinked with wider policy drivers. These recognise wider social, economic and environmental contributions of transport to issues such as the liveability and accessibility of communities, the impact of harmful emissions, health & wellbeing and connectivity across the area.

2.4.25 There is also a renewed emphasis on 'living well locally' and accommodation of more people-place focused activity through the re-balancing of urban centres in line with the principles of community empowerment. This rebalance broadly entails reducing the dominance private car and reprioritising more sustainable modes of transport.

2.4.26 Despite challenges associated with suburban areas like East Renfrewshire, improving local access, providing more sustainable and inclusive transport choices, influencing land use patterns around existing transport infrastructure and providing reliable, convenient connections between places should be key requirements of a future transport network.

2.4.27 Assessment of future Transport Planning Objectives need to be aligned with broad aims and objectives of wider policy drivers. It is therefore proposed that these support key priorities of the National Transport Strategy 2, namely:

- **Reduce inequalities**
- **Take climate action**
- **Help deliver inclusive economic growth**
- **Improve our health & wellbeing**

3 Area Profile

3.1 Context

3.1.1 ERC in its current guise was formed in 1996 following dissolution of the former Strathclyde Regional Council. This combined the Eastwood District in the east with the Barrhead Burgh from the west (formerly part of Renfrew District).

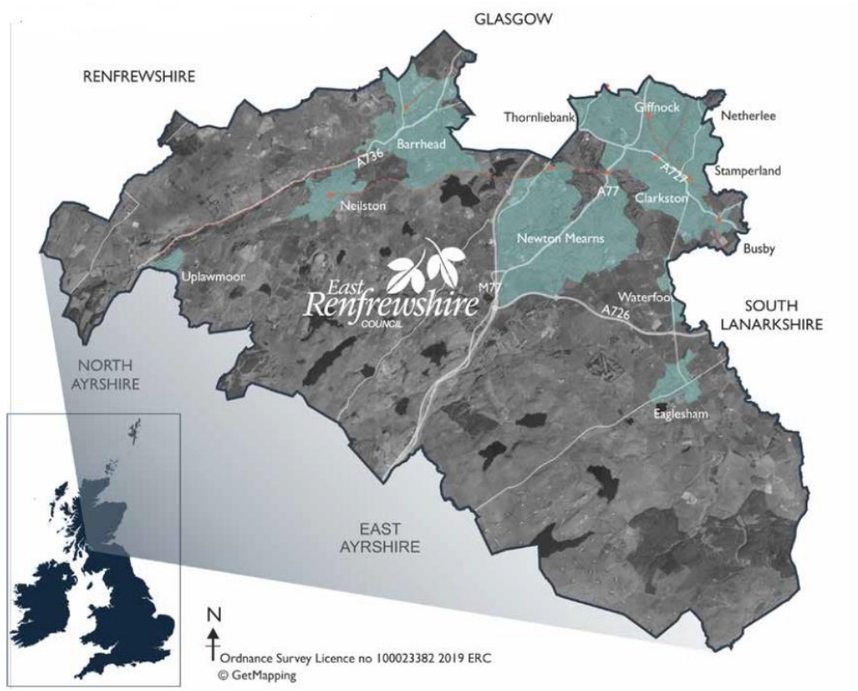
3.1.2 East Renfrewshire is bordered by five neighbouring local authority areas – Glasgow City, Renfrewshire, South Lanarkshire, East Ayrshire and North Ayrshire - and is one 12 member authorities of the SPT region.

3.1.3 East Renfrewshire is the 5th smallest local authority by area in Scotland and covers an areas of 67 sq miles (174 sq km) [2].

3.1.4 East Renfrewshire is mostly rural in character with urban settlements predominantly located to the north of the authority. This is where the majority of the population reside. These areas have a distinctive and largely suburban character which forms part of the southern conurbation of Glasgow.

3.1.5 There is also an extensive rural hinterland to the south, within which the villages of Uplawmoor, Neilston, Waterfoot and Eaglesham are located.

Figure 4: Boundaries and Geographical Extent of East Renfrewshire (Local Development Plan 2)



3.1.6 Key defining features influencing travel patterns within East Renfrewshire include:

- An interdependent relationship with Glasgow City specifically and the Glasgow Region more generally. This is where the majority of jobs are located
- Primarily residential. A place where people live. Shops, jobs, services and amenities which, although varied, generally reflect key residential functions
- Low density / low rise –suburban settlements and destinations are often dispersed over relatively large areas, thereby influencing local travel patterns
- There exists a degree of separation between the east and west of the area. This is based on the historic context surrounding the formation of the local authority, but is further exacerbated by the M77 motorway. This acts as a physical barrier between Eastwood & Newton Mearns to the east and Levern Valley to the west
- Legacy car-based road transport - environment designed to manage (and generally prioritise) vehicular traffic

Disperse settlement patterns relying more heavily on car use together with high level of outward trips for work suggest broad challenges to influence a change in travel behaviours. Conversely this also presents opportunities to promote better local living and quality of place with a renewed focus on people and communities.

3.2 Population

Population Growth

3.2.1 In 2020, the population of East Renfrewshire was estimated at 96,060.

3.2.2 Between 1998 and 2020, the population of East Renfrewshire has increased by 8.8%. This is the 12th highest percentage change out of the 32 council areas in Scotland. Over the same period, Scotland's population rose by 7.7% [3]. The main driver behind this population growth has been net migration of people moving into the area [4].

3.2.3 The growth of the population, between 2011 and 2018, has been concentrated in Newton Mearns (13.2%), Uplawmoor (11%), Eaglesham and Waterfoot (9%), with lesser growth in Clarkston and Williamwood (3.6%), Busby (3.3%), Giffnock (1.1%), Barrhead (0.6%), Thornliebank (0.6%) and Netherlee and Stamperland (0.4%). The population has declined in Neilston (-3.3%) [5].

3.2.4 This uneven dispersal of growth is likely to influence increased transport demand in the eastern part of the authority, specifically peri-urban locations where public transport connections are limited.

3.2.5 Approximately 41% of the population are either under the age of 16, or over 65. These statistics produce one of the highest dependency ratios - 3rd highest dependency ratio within the SPT region1, 13 points above the SPT average and 12 above the Scottish National ratio.

Population Projections

3.2.6 Between 2018 and 2028, the population of East Renfrewshire is projected to increase from 95,170 to 101,230. This is an increase of 6.4%, which compares to a projected increase of 1.8% for Scotland as a whole. Again, this is as a result of more people moving into the area [3].

3.2.7 The number of children and young people increased by 7.8% from 2011 to 2018. The proportion of 5 to 14 year-olds as a percentage of the total East Renfrewshire population is the highest across Scotland's 32 local authority areas [5]. This trend is set to increase, with those aged between 0-15 set to increase by 2% by 2028.

[1] Dependency Ratio is defined as the total population under the age of 16 and over 65 as a ratio of those in the working age category 16-65

3.2.8 Between 2018 and 2028, the 45 to 64 age group is projected to see the largest percentage decrease (-5%) and the 75 and over age group is projected to see the largest percentage increase (+26.8%). In terms of size, however, 45 to 64 is projected to remain the largest age group, as per Figure 5 and Figure 6).

Figure 5: East Renfrewshire Projected Population by age group by year, 2018 and 2028 [3]

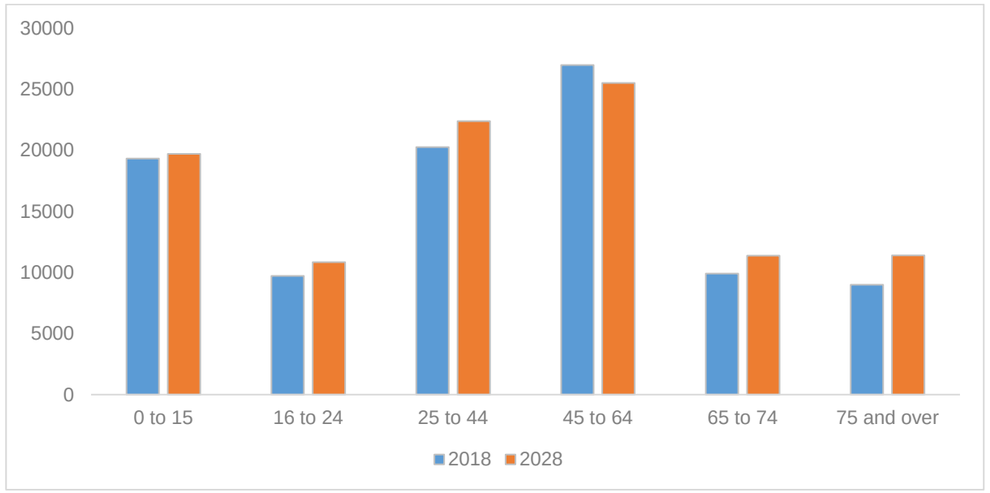
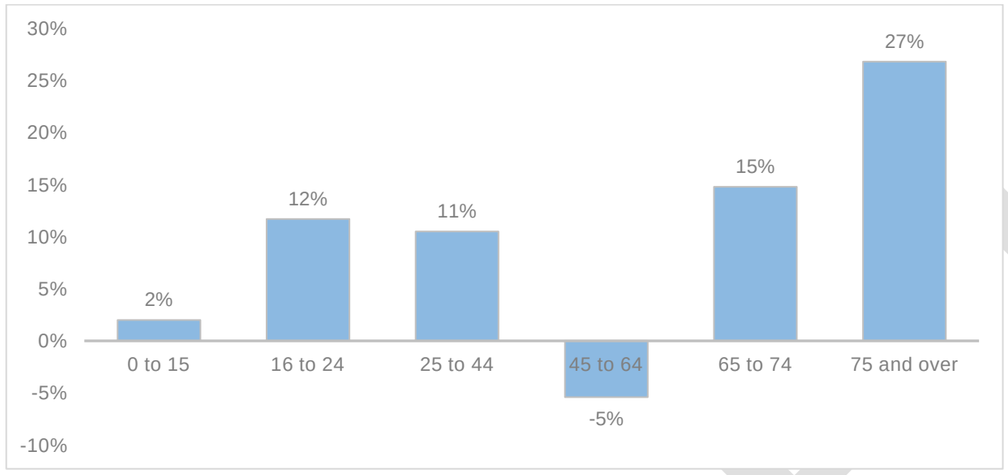


Figure 6: East Renfrewshire % Change in Projected Population by Age Group; 2018 and 2028 [3]



Conclusions

3.2.9 Future population growth and the requirements for new housing services, facilities and amenities is likely to increase. This will have associated land-use impacts and will be largely influenced by future patterns of growth.

3.2.10 East Renfrewshire's population currently possesses a high proportion of younger and older age groups, with this trend set to continue in the future. Growth of these dependant population groups present their own specific challenges:

- **Young Population:** Creates challenges around school transport, with the increased number of education-based trips and associated pressures on the transport networks, particularly nearby education facilities and the public transport services which connect to them.
- **Older Population:** Will result in increased demand for healthcare trips and related community transport services. There will also be increased demand for conversionary travel passes associated subsidies of public transport journeys.

3.3 Education

3.3.1 The quality of education offered in schools is an aspect that East Renfrewshire prides itself on and with two high schools ranked within the top five in Scotland [6]. Specifically, East Renfrewshire possesses 7 secondary schools and 24 primary schools. In addition, the area has 13 school affiliated nursery classes, 9 family centres as well as a number of private partnership nurseries.

3.3.2 East Renfrewshire has one of the highest academic attainment levels of all constituent authorities within the SPT region, with over 45% of residents gaining a level 3 qualification or above (Diplomas, Degrees, Masters, PhD) [6]. This number is 12% higher than the SPT average and 9% higher than the Scottish National level.

3.3.3 Many of the educational establishments in the authority are currently experiencing increasingly high occupancy levels, particularly so within the Eastwood area [7]. Population projections suggest that the numbers of young people will increase with implications for nursery and school provision.

3.4 Health

3.4.1 SIMD Health rankings indicate that East Renfrewshire has the best health indicators in the SPT region with 7% of data zones within the lowest quintile (worst health) and 36% of datazones within the top quintile (best health) [8].

3.4.2 27.3% of residents in East Renfrewshire have a limiting long-term health problem or disability. This is slightly less than the national rate of 29.9% but broadly matches the national profile [9]. It should be noted these figures differ from national health statistics as outlined in section 8.2.3

3.4.3 Although East Renfrewshire possesses a relatively healthy population, an increasing and ageing population is likely to increase demand on care services, with people over 80 the greatest users of hospital, community health services and social care. As per section 3.2.10, elderly people who will require access to health services and care will increase demand for specialist community transport services, something which the LTS needs to consider.

3.5 Employment & Activity

Economic Structure

3.5.1 70% of the working age population is economically active [10]. This rate is higher than both the SPT regional average and the Scottish National level. Of those adjudged economically inactive, more than half (53%) are retired, one of the highest retirement rates in the SPT region.

3.5.2 Around a quarter of East Renfrewshire residents work within the local authority area (see Table 6), with the majority of these residents employed in lower paying sectors such as construction and wholesale and retail, while the remainder work in education and health and social work.

3.5.3 Analysis of workplace based Annual Survey of Hours and Earnings (ASHE) indicates that those living and working in East Renfrewshire earn less both hourly and weekly than those living in East Renfrewshire and working elsewhere. In terms of Gross Annual Pay, those working in East Renfrewshire earn the second lowest of all other local authorities in the SPT region.

Local Economy

3.5.4 East Renfrewshire has 4 Town Centres and 23 Neighbourhood Centres. As Table 6 outlines, most of East Renfrewshire's economic population do not commute to these centres. Longer-term sustainability and viability of local economic centres, as well future travel demand along key movement corridors on which these centres are located, is therefore a key consideration (discussed further Section 9.4).

Movement

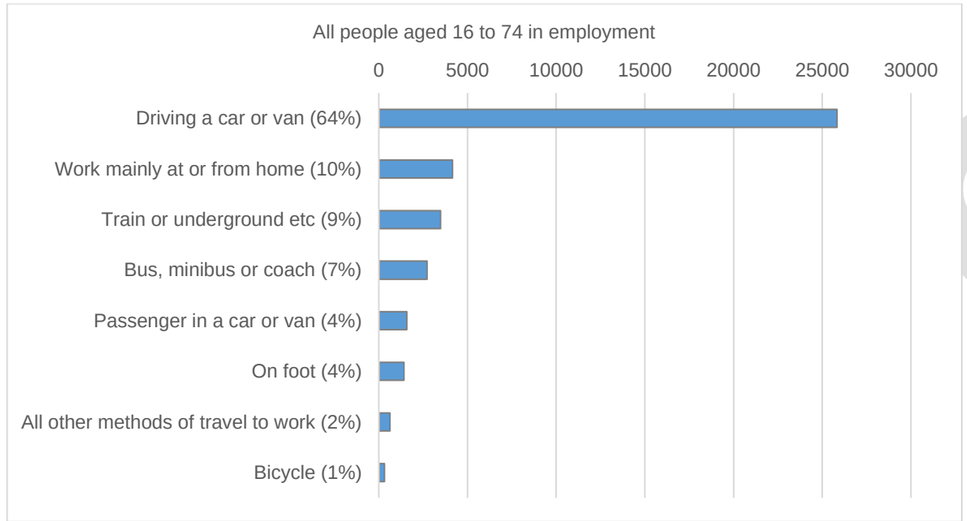
3.5.5 Due to the relative lack of employment opportunities within the local authority boundary, the majority of residents (typically highly skilled workers) commute outside the local authority area [11]. This results in a net daily outflow and possible economic leakage as people both earn and spend away from home.

Table 6: Travel to Work Trends

Origin	Destination	
	Outside East Renfrewshire	Inside East Renfrewshire
Giffnock & Newton Mearns	76%	24%
Barrhead & Neilston	72%	28%
East Renfrewshire	75%	25%

3.5.6 Based on 2011 data in Figure 7, approximately 20% of East Renfrewshire residents in employment travel to work by sustainable transport modes (train, bus, walk or bike), with 10% of residents working from home. The majority of commuting is undertaken by private car [12].

Figure 7: Method of travel to place of work or study; East Renfrewshire



3.5.7 Glasgow City represents the top work destination, with 44% of residents commuting from East Renfrewshire to Glasgow [11]. Of these residents 66% commute by car (driving and passenger), 19% use one of East Renfrewshire's 9 rail stations and a further 13% use the bus network [12].

3.5.8 Other work destinations, excluding 'work at/from home' and 'no fixed place', includes:

- East Renfrewshire (18% of workforce)
- Renfrewshire (9%)
- South Lanarkshire (6%)

3.5.9 Of the people commuting into East Renfrewshire, approximately 45% travel from Glasgow City, 18% Renfrewshire, 8% South Lanarkshire and 6% East Ayrshire.

3.5.10 In terms of other everyday journeys, 2019 household survey data suggests main purpose of travel for residents includes commuting (24% of trips), Shopping (21%) and visiting friends (11%), as per Figure 8. The main mode of travel for these journeys is predominantly private car, followed by walking and public transport (see Figure 9).

Figure 8: Main purpose of travel - East Renfrewshire [13]

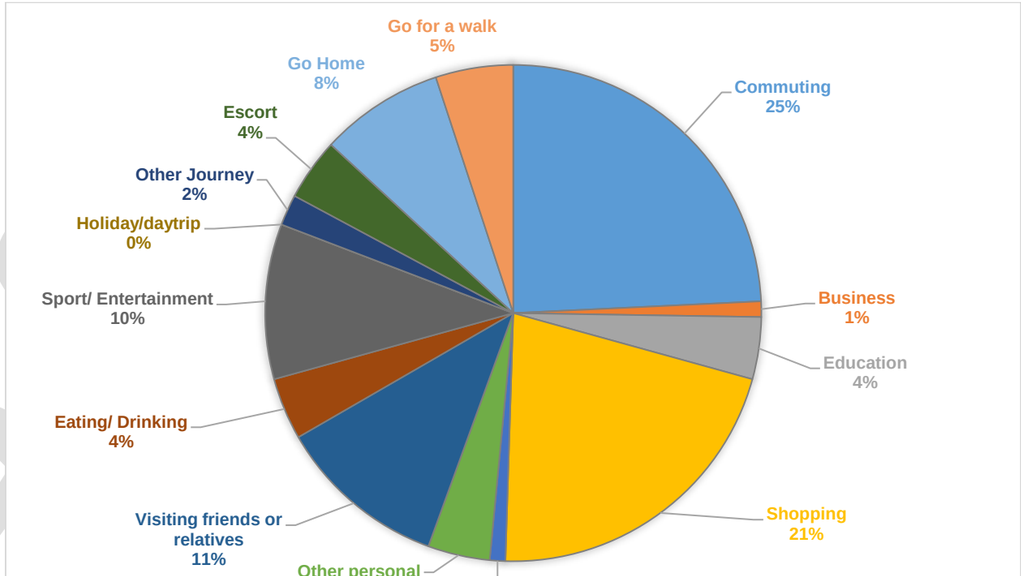
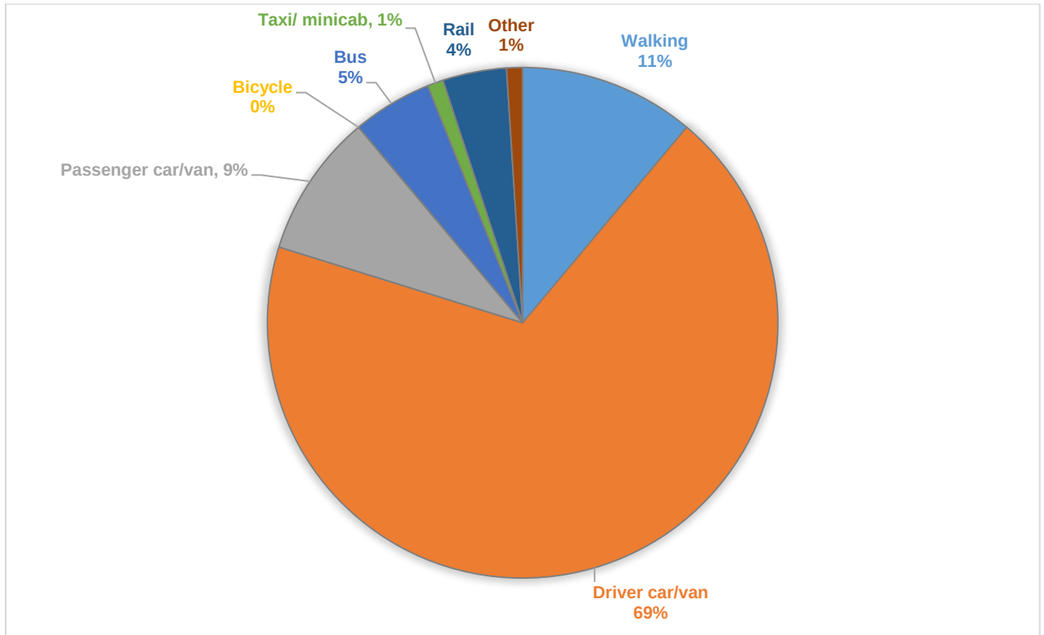


Figure 9: Main mode of travel - East Renfrewshire [13]

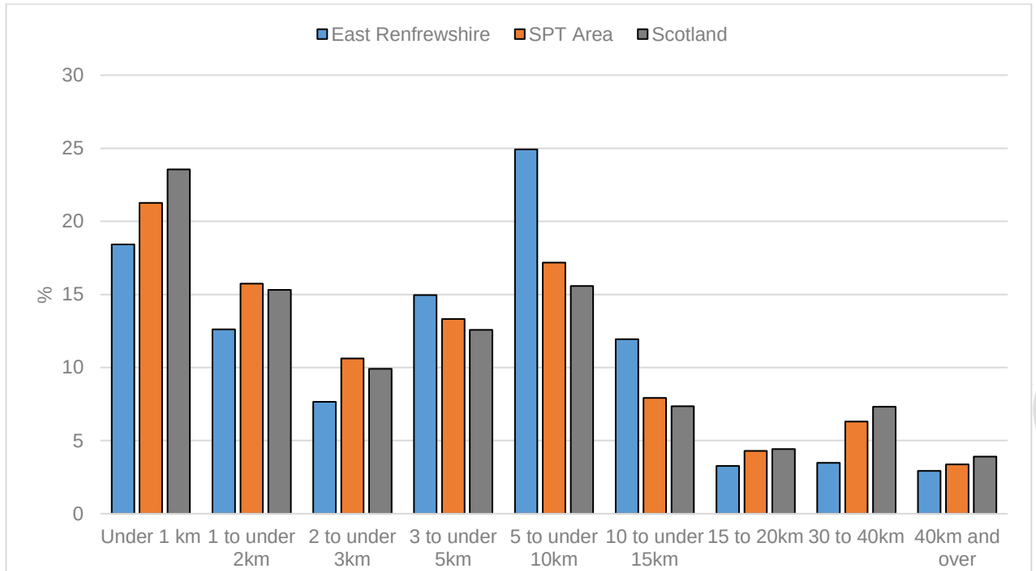


3.5.11 Historical household survey data presented in Figure 10 suggests that approximately 54% of journeys undertaken from within the area are below 5km (around 3 miles), with over 90% under 15km.

3.5.12 Although the number of 'short' journeys in the area below 5km is less than regional and national average. The number of 'medium' journeys between 5-15km (37%) is above regional and national averages. The number of 'long' journeys over 15km (10%) is below regional and national averages.

3.5.13 Given changes resulting from COVID, the above analysis may not reflect the possible long-term behavioural changes resulting from the pandemic, as discussed within Section 9.4.

Figure 10: Average Distance Travelled (2013-2019) [13]

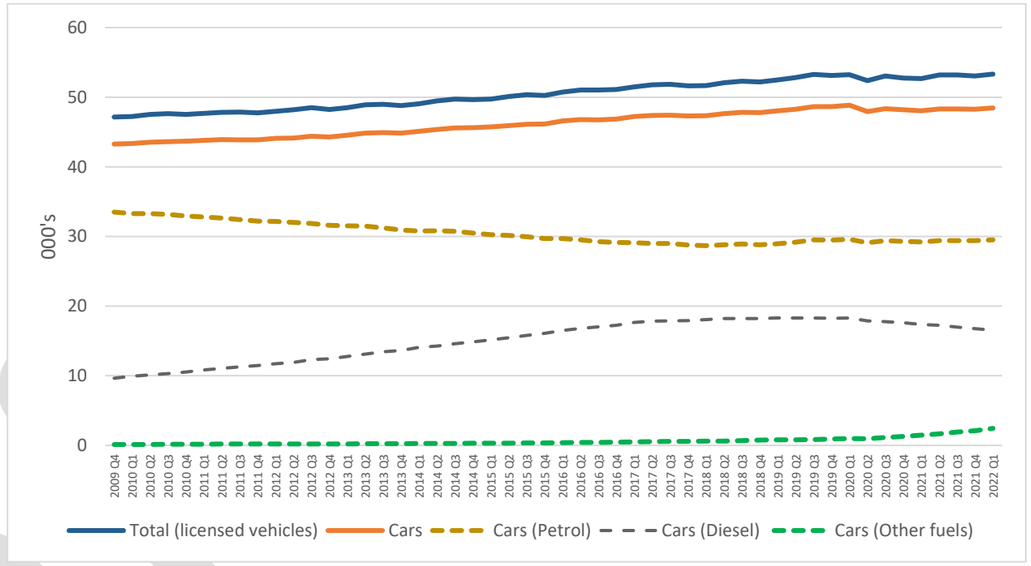


3.6 Vehicle & Car Ownership

3.6.1 East Renfrewshire has total of 53,317 licenced vehicles in its local authority area, of which 48,473 are private cars (see Figure 11). Licenced cars have increased 12% since 2009 - this compares to a population growth rate of around 7% between 2009 and 2020 [3] - and represent the significant majority of vehicles licenced within the area.

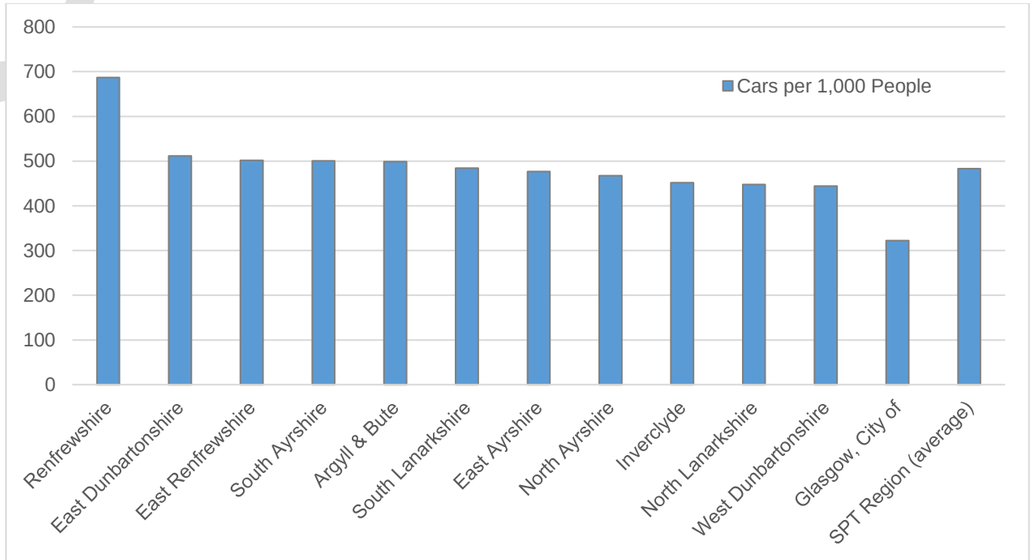
3.6.2 The largest increase in licenced vehicles by category within East Renfrewshire is Light Good Vehicles (LGVs). Although LGVs comprise less than 6% of licenced vehicles in the area these have increased 45% between 2009 and 2022.

Figure 11: Licenced Vehicles; East Renfrewshire 2009-2022 [14]



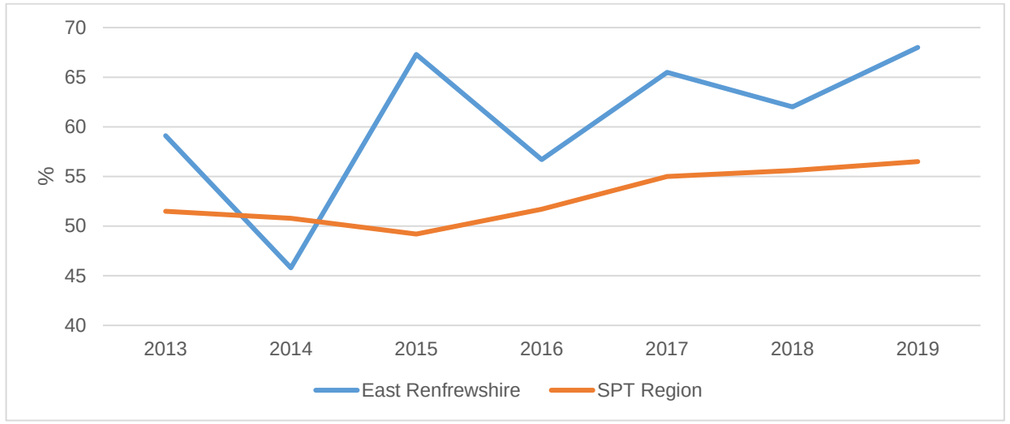
3.6.3 Based on 2019 Transport Scotland data East Renfrewshire has a driving population of 74,389 with a ratio of 502 cars per 1,000 people, the 3rd highest on the SPT region.

Figure 12: Vehicles licenced per 1,000 people in SPT region [15]



3.6.4 Recent household survey data suggests East Renfrewshire has the largest driver mode share in the SPT region (68%), with the area experiencing the greatest modal share increase from 2013-2019; 8.9% compared to a regional average of 5%.

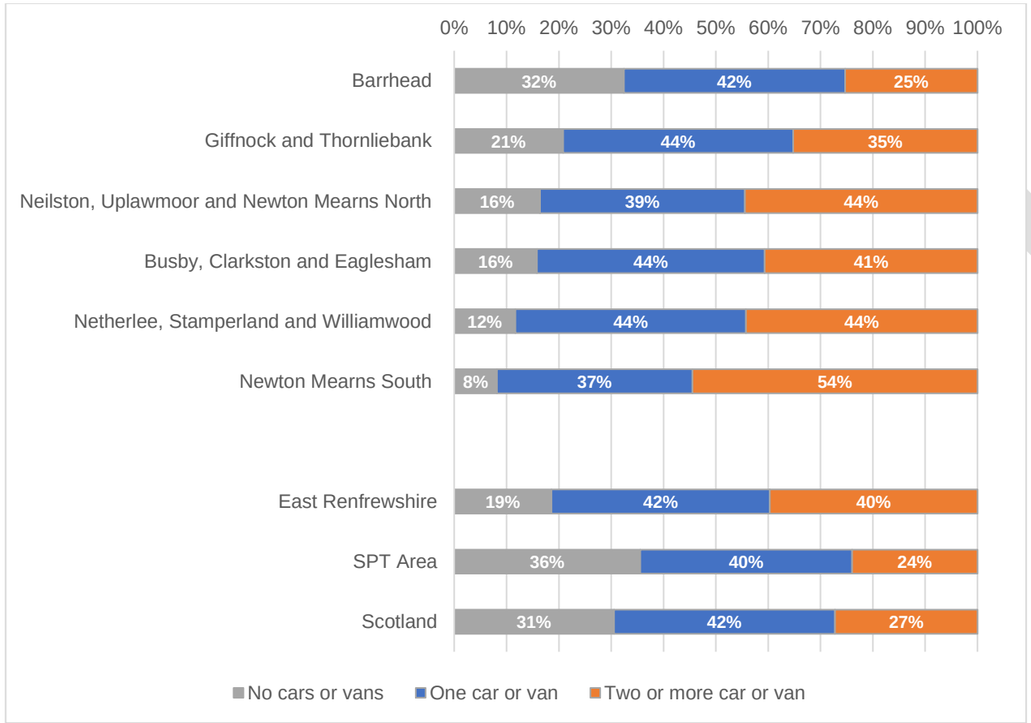
Figure 13: Driver Mode Share Percentage [13]



3.6.5 In terms of car ownership, analysis suggests that 81% of households in East Renfrewshire have access to one or more car or van, which is higher than regional and national averages (see Figure 14).

3.6.6 Notably, patterns of car ownership appear to reflect inequalities, with less affluent areas possessing lower rates or car ownership (reflective of national and regional averages) compared to more affluent communities. More affluent areas are more likely to have access to two or more vehicles.

Figure 14: Percentage of cars or vans in household by area [16]



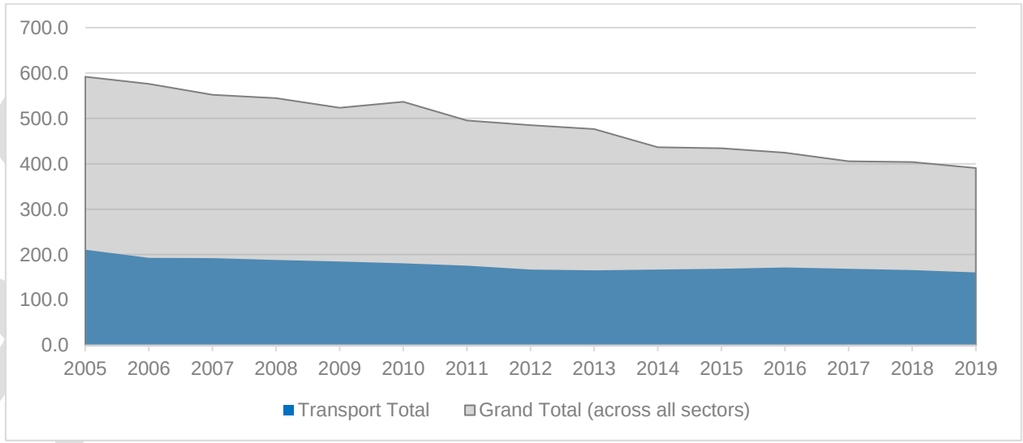
3.6.7 The data presented above suggests that car ownership and usage is increasing within the area.

3.7 Transport Emissions

3.7.1 Transport emissions within East Renfrewshire represent 41% of total CO_2 emission estimates, the largest emitting sector (comparable with domestic emissions) [17]. Within a national context, East Renfrewshire represents 1.6% of Scotland's total Transport Emissions [8].

3.7.2 Across all sectors within East Renfrewshire concentrations of CO_2 emissions have continued to decrease. There is however a disparity between transport and other sectors, with transport emissions reducing 24% between 2005-2019 compared with 34% for all other sectors, as per Figure 15.

Figure 15: East Renfrewshire CO_2 emissions estimates 2005-2019 (kt CO_2) [17]



3.7.3 Air quality has improved significantly since the 1950s, with dramatic reduction in most pollutants, in particular lead, carbon monoxide and sulphur dioxide. Transport is the most significant source contributing to reduced air quality in urban areas. Notwithstanding, air quality in East Renfrewshire is generally assessed as 'good' [18].

3.7.4 2020 Air Quality monitoring saw significant reduction in pollutant concentrations across the country as a direct result of Covid-19 travel restrictions and long periods of community "lockdowns". East Renfrewshire saw reductions in NO2 levels across all 23 of its monitoring locations in 2020 compared to previous years [18].

3.8 Summary

3.8.1 East Renfrewshire is largely suburban and residential in character with disperse settlement patterns influencing travel behaviours

3.8.2 East Renfrewshire possesses a high proportion of younger and older age groups with this trend set to continue in the future. Key challenges include a greater demand for nursery and school provision, changing housing needs (and associated land use impacts), increased pressure on care services (due to onset of health conditions associated with an ageing population) and increasing demands on transport networks.

3.8.3 High demand for services, outward commuting patterns and high rates of car use for all journeys, with associated travel implications, suggests challenges to enable a shift to more sustainable travel in the future.

3.8.4 Overall, car ownership and usage is increasing within the area, with car ownership reflecting wider patterns of inequality.

3.8.5 Although CO2 emissions have reduced, transport remains the largest emitting sector in the area with reductions largely stagnating over the last decade. Transport is also the most significant source contributing to reduced air quality in urban areas.

4 Consultation and Engagement

4.1 Introduction

4.1.1 The development of the Case for Change has been informed by previous consultation with public and stakeholders. This reflects the fact that engagement around transport opportunities and issues in East Renfrewshire has taken place over recent years.

4.1.2 An overview of key findings from pertinent public and stakeholder consultation exercises is set out below. Additional stakeholder consultation findings and how these have been drawn upon for the purposes of developing the LTS Case for Change is set out in Appendix A.

4.2 Public Attitudes Towards Transport

4.2.1 East Renfrewshire Citizens' Panel is a group of approximately 1,200 local people that broadly represent the local population. The 2020 survey sought Panel members' views on a range of issues related to climate change to inform ongoing work across the Council to support climate change action. A specific set of questions relating to transport were asked as part of this survey.

4.2.2 It should be noted that this survey was undertaken at the start of the COVID-19 pandemic, so the answers may not reflect the possible long-term behavioural changes of the COVID-19 pandemic. See section 9.4 for more discussion.

Table 7: Overview of East Renfrewshire Citizen's Panel Spring 2020 Survey Findings [19]

Theme	Main Findings

Travel to and from work	• 73% of those in employment indicated that they usually travel to and from work by car
	• 37% felt that the proposed Low Emission Zones in Glasgow would have some impact upon their travel
	  ○ Those in Northern Newton Mearns and Neilston were more likely to be affected
	  ○ Some respondents indicated they could stop travelling to Glasgow as public transport options were seen as unviable alternatives

Active Travel	• 63% felt that East Renfrewshire lacks the infrastructure needed for more journeys to be made by active travel
	• 81% were in favour of development of more protected cycle ways
	• Comments on possible approaches included:
	  ○ *Encouraging more walking:* Most common suggestions were improved pavements, safe walking routes, more advertising of walking routes in green and/or rural areas, and an awareness raising campaign to change attitudes to walking.
	  ○ *Encouraging more cycling:* Suggestions included more and better cycle lanes (including specific suggestions for lanes to be separated from roads), improvement of road surfaces and layout to make them safer for cyclists, better advertising and signposting of cycle routes, and low cost cycle hire schemes.
	  ○ *Discouraging car use:* most common suggestions were improved public transport options (more routes, more frequent services and improved reliability), lower cost public transport, more integrated transport options such as park and ride (bus and train), reduced speed limits and enforcement of parking restrictions.
	• 31% would consider applying for an interest-free loan to purchase an electric bike
	• 27% suggested that some of their recent car journeys could have been taken by active travel

Public Transport Community Transport	• A minority of respondents felt that public transport is a viable option for them in terms of :
	  ○ travel to work (37%)
	  ○ getting to shops and services (39%)
	  ○ getting to medical appointments (36%).

	○ However, more than half (59%) feel that public transport is a viable option for other everyday travel.
	• Suggestions to shift car use to public transport included:
	  ○ Improved public transport options. This included reference to a need for more routes, more frequent services on existing routes
	  ○ Reduced journey times, and improved reliability;
	  ○ Reducing the cost of public transport;
	  ○ Improving integration of public transport options, and making park and ride a more viable option (using bus and train)
	  ○ Increasing the cost of private car travel, including restrictions on private car use in some areas.

Community Transport	• 10% of respondents have used community transport in East Renfrewshire • Those aged 65+ were most likely to have used community transport (19% have done so) • (48%) of all respondents feel that there is a need for more community transport in East Renfrewshire. This rose to 76% of those who have used community transport.

Car Ownership and Usage	• 89% have use of a car, usage varies across East Renfrewshire, with those living in more deprived areas being significantly less likely to have use of a car.
	• 64% would consider an electric or hybrid option if they were looking to replace their car
	• Majority of respondents supported action to shift travel from private cars to more sustainable transport options:
	  ○ 73% supported the use of public money to provide electric vehicle charging points
	  ○ 66% felt that the Council should be doing more to prioritise sustainable transport over private cars
	  ○ 66% would like to see the Council generate income from electric vehicle charging points to fund further charging infrastructure
	  ○ 59% of respondents felt that individuals should be doing more to shift away from private car use to more sustainable options

School Travel	• Walking (47%) and private car (46%) were the most commonly used options for travel to school. • While the proportion of Panel members who walk to school is broadly similar to local and national averages, use of a private car is significantly higher than reported nationally (46% compared with the national average of 24%) • 62% felt that schools or others should be doing more to encourage less driving to school • 92% supported more lower speed limit zones in residential areas and around schools • 83% in favour for vehicle exclusion zones around schools

4.2.3 Table 7 highlights a disconnect between people wanting to move around more sustainably - with respondents indicating an ambition to increase their walking and cycling trips – and actually doing so. Public sentiments however broadly support a shift to towards more sustainable transport options.

4.3 Public Attitudes Towards Active Travel

4.3.1 Greater uptake of active travel is a fundamental Council aspiration and a cornerstone ambition of wider policy. Consequently, ERC have undertaken a variety of public / stakeholder consultation exercises to ascertain public opinions on moving around more actively. An overview of the information is presented below.

East Renfrewshire Council Active Travel Action Plan Research Findings (2014)

4.3.2 As part of the ERC's Active Strategy, the Council carried out a representative public survey of 502 residents from the area's localities to gauge opinions on potential investment priorities for active travel infrastructure. The issues addressed included:

- Identifying respondent cycling / walking habits
- Measuring opinion on current infrastructure
- Establishing public priorities regarding council spending
- Establishing public priorities regarding facilities investment
- Establishing public priorities regarding encouragement and intervention

4.3.3 An overview of the main findings is presented in Table 8.

Table 8: Overview of East Renfrewshire Council Active Travel Plan Research Findings [20]

Theme	Main Finding(s)
Priority of Objectives	Top 3 priorities were to: 1. Increase active travel to school 2. Maintain existing active travel network 3. Increase active travel to allow use of public transport
Type of Cycling / Walking Activity	• Highest response: I don't cycle / walk – cycle (83%) / walk (10%) • Highest Cycling Response: Leisure (23%) • Highest Walking Response: Utility (44%)
Purpose of Cycling / Walking	• Highest Cycling Response: Health / Fitness (59%) • Highest Walking Response: Health / Fitness (68%)
Frequency of Cycling / Walking	• Highest Cycling Response: Never (81%) • Walking: Daily (52%)
Rating of Cycling / Walking Facilities	• Highest Cycling Response: Unsure (40%) • Highest Walking Response: Good (65%)
Investment Priorities	Proportion of residents who selected each provision: 1. Off-road cycle and walking paths (79%) 2. Rural road for active travel trips (72%) 3. Park facilities / green facilities (65%)
Encouragement Priorities	Proportion of residents who selected each provision: 1. Traffic-free routes (41%) 2. Better road surfaces (33%) 3. Less / slower traffic (30%)
Reasons for Not Cycling	Proportion of residents who selected each reason: 1. I don't like to cycle (55%) 2. Interaction with road traffic (50%) 3. Personal safety / security risk (32%)
Overcoming Reasons for Not Cycling (Open Ended)	Top responses to open question: 1. More / better cycle lanes / routes / facilities / places to go (40%) 2. Make it safer (17%) 3. Too much traffic / better traffic control (13%)
Main Concerns with Infrastructure (Open Ended)	Top responses to open question: 1. Busy Road / Traffic / Congestion 2. Safety a concern / Too dangerous 3. Lack of space / lanes / routes / facilities for cyclist
Urban / Rural Investment Preference	• Unsure (39%) • Rural cycling / walking (33%) • Urban cycling / walking (28%)
Facilities Investment Priorities	Proportion of residents who selected each facility investment: 1. At the school (95%) 2. At the train stations (94%) 3. At the park (93%)
Priority Interventions - Walking	Proportion of residents who selected each intervention: 1. More traffic calming (55%) 2. More footpaths in towns / villages (55%) 3. Better maintenance of routes (55%)
Priority Interventions - Cycling	Proportion of residents who selected each intervention: 1. Off-road cycle paths (63%) 2. Segregated cycle lanes (54%) 3. Dedicated on-road cycle lanes (47%)

4.3.4 Table 8 illustrates how cycling is seen as a predominately leisure-based activity within East Renfrewshire, with a majority of residents not cycling at all. Road safety concerns arising from existing urban environment (such as high volumes and speed of traffic, quality of provision and lack of segregated cycle lanes) is the main barrier to people increasing their levels of cycling, with many wanting improvements to existing active travel facilities. Based on existing market research, current cycling demand would be largely leisure based, and not perceived as an everyday utility means of transport. Although school trips and access to public transport, which are seen active travel priorities, encouraging more everyday journeys by bike will require both a multifaceted and longer term effort.

4.3.5 The results for walking reflect views that this is primarily a utility activity as well as a leisure pursuit. Like cycling, improvements to existing infrastructure are seen as a catalyst for increased levels of walking, with trips to school / public transport being the main walking priorities.

East Renfrewshire Cycleways and Public Improvements (2019)

4.3.6 To help inform development of potential future cycle infrastructure and public realm improvements to support previous Sustrans Community Links PLUS application, ERC commissioned public attitudes surveys on the following points:

- Public attitudes to different methods of getting about
- The current extent of motor vehicle usage for different types of journey
- Factors that would encourage a shift from motor vehicle journeys towards walking or cycling
- Attitudes to the concept of protected cycleways.

4.3.7 An overview of the main findings from a representative survey sample of 400 people is presented in Table 9 below.

Table 9: Overview of Cycleways and Public Improvements - Public Consultation Research Findings [21]

Theme	Main Findings
Attitudes to Different Ways of Getting About	• Many stated that they are "not the kind of person who rides a bicycle", with several outlining that they found cycling unsafe due to other vehicles and road conditions (this being especially so for existing cyclists). • Respondents were unlikely to consider themselves as feeling "a moral obligation to drive less to reduce my emissions of greenhouse gases". Generally, people felt that they "should be allowed to use their cars as much as they like"

Theme	Main Findings
	• 39% of people stated that they would cycle more if there was better provision for cyclists. • 74% of people outlined that they would walk more if there were better walking routes / pedestrian facilities;

Attitudes to Protected Cycleways	• 49% expressed support for protected cycle ways, with 12% being in opposition. A substantial 39% have a neutral response.
	• Amongst those who expressed an opinion, 63% indicated that they would only support protected cycleways if that did not mean road space being taken away from motor vehicles.
	• A minority (albeit a meaningful one) of 19% suggested that protected cycleways would encourage them to cycle / cycle more. A much more substantial proportion (63%) indicated a belief that protected cycleways would encourage other people to cycle / cycle more).
	• There was a broad pattern of respondents believing that protected cycleways would:
	  ○ Encourage more journeys to be done by bike (as opposed to motor vehicle)
	  ○ Make it safer for children to get to school
	  ○ Encourage more people to use their bikes to get around
	  ○ Increase the range of transport options to people.
	• When shown illustrations of protected cycleways, 50% of respondents indicated that they would support there being more of these in East Renfrewshire, 14% opposed this and 36% took the neutral "neither / nor" option.

4.3.8 Similar public attitudes surveys undertaken in 2022 to support temporary 'Spaces for People' cycle lanes [22] suggests similar sentiments, with a majority of respondents stating they "not the kind of person who rides a bicycle" but supportive in principle protected cycle infrastructure within their community.

East Renfrewshire ISM Workshop Report (2019)

4.3.9 As part of the Community Links PLUS Stage 2 submission, ERC commissioned Keep Scotland Beautiful to carry out two half-day Individual, Social, Material (ISM) Workshops. The ISM workshop was carried out with a group of 10 stakeholders (representing local authority, community council and local residents), to discuss sustainable travel for short journeys of less than 3 miles in East Renfrewshire. Table 10 outlines the workshop's main findings.

Table 10: Overview of East Renfrewshire ISM Workshop Report Findings [23]

Issue	Main Findings
Dominant Car Culture	• Cars and car use are seen to convey social status, with learning to drive / owning a car being seen as 'rites of passage' for young people. • A key barrier to sustainable travel is that there are no barriers or disincentives to using a car – once you own a car, it makes sense to use it (as opposed to using another mode). • Car travel is seen as 'norm', with other travel choices being viewed as acting outside of the norm.
Transport Choice and Status	• Link between status and transport choices. Use of bus seen as a 'low status' choice. Walking also identified as a lower status than driving / being driven, though not as strongly as the bus, with the added barrier that walkers are very visible to car drivers. • Same links were not drawn between status and cycling – indicating that either status is not an issue, or that it is such a niche travel choice that it doesn't have a strong signifier related to status associated with it.
Safety and Health	• Lack of safe cycling and walking routes were seen as a problem, with junction and road crossing being of particular concern to parents.
	• Also, safety concerns relating to road traffic concerns and personal safety when walking or using public transport – reflected in the idea that parents have an attitude that children must be taken / picked up, thus restricting children's autonomy around transport choices. • Health benefit of active travel also identified as an opportunity – mirrors with wider campaigns and concerns around encouraging active lifestyles.

Schedules	• Time and schedules were a strong theme, specifically this focused on:
	  ○ Family and work commitments rendering using different modes of transport difficult
	  ○ Cars seen as being convenient
	  ○ Public transport being seen as unreliable and inflexible (especially when it came to service timetables)
	  ○ Peak traffic times create congestion and reduce willingness to walk or cycle

4.3.10 Table 10 illustrates how private car is seen as the viable transport choice within East Renfrewshire, resulting in high levels of car ownership and usage, even for short journeys. Social attitudes perceive private car as being the 'best' mode of transport within East Renfrewshire from both a practical and social perspective. Consequently, public transport and walking (although not cycling) being perceived as a 'low status' choice.

4.3.11 Cycling is mainly seen as a leisure activity and an unviable mode of transport. This is due to road safety concerns, a lack of infrastructure and perceived inflexibilities.

4.3.12 Notwithstanding the above, participants recognised negatives associated the current unrestrained "roads-based infrastructure" within the area. This includes the perception that as more people drive the benefits and utility of car use decreases due to increased congestion.

4.4 Summary

4.4.1 Private car is the dominant mode of travel within East Renfrewshire with active travel and public transport (bus) perceived as less attractive, inflexible, unviable and 'low status' in comparison to the convenience of private car.

4.4.2 Although walking is generally viewed as a utilitarian form of transport, cycling is viewed as a minority leisure pursuit.

4.4.3 Widespread private car use and a lack of meaningful disincentives to driving suppresses uptake of more sustainable transport modes, which are also perceived as an inflexible option for families and individuals due time and scheduling reasons.

4.4.4 Infrastructure and road safety concerns appear to be the main barrier to increasing active travel, with improvements to existing infrastructure are seen as a catalyst for increased active journeys, particularly for school and public transport trips.

4.4.5 Although the majority of residents support the creation and improvement of active travel infrastructure as a means of promoting active journeys. Based on findings, reallocation of road space away from motor vehicles in order to support cycle infrastructure would generally be opposed and therefore controversial.

4.4.6 Despite this, issues associated with uninhibited car use is broadly recognised, with the majority of respondents suggesting ERC should be doing more to prioritise sustainable transport over private cars.

4.4.7 It is notable that respondent feedback suggests that active travel improvements would generally benefit *other* people within their community to travel more actively (as opposed to survey respondents themselves, with only a small proportion of respondents suggesting this would lead to personal behaviour change).

5 Active & School Travel Baseline

5.1 Introduction

5.1.1 More walking, wheeling and cycling for everyday journeys and leisure can bring significant benefits to people and place, including improving health, easing congestion and reducing pollution

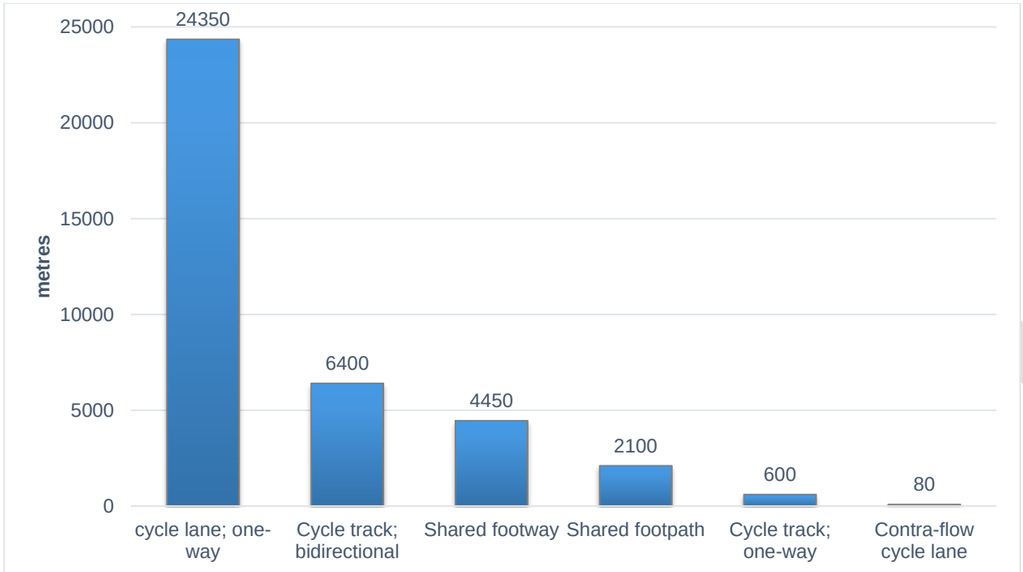
5.1.2 This chapter provides an overview of walking and cycling within East Renfrewshire, as well as other issues impacting people's ability to travel more actively. This includes a specific focus on School Travel, which is considered a significant trip generator in the area.

5.2 Active Travel Network

5.2.1 East Renfrewshire's Active Travel Network includes 706km of adopted footway / footpaths to facilitate walking, wheeling and, to a lesser extent, cycling.

5.2.2 Documented cycling provision comprises 38km of facilities. This includes on road cycle lanes, segregated cycle tracks and shared use footway / footpaths (see Figure 16).

Figure 16: Inventory of East Renfrewshire (Roads) Cycle Facilities (March 2022)



5.2.3 At time of writing, it is not possible to quantify the exact extent of East Renfrewshire's overall Active Travel Network. Figures presented above exclude other active travel assets. This includes urban and unclassified roads as well as remote paths and lanes, that may otherwise form part of the strategic cycle and urban path network respectively.

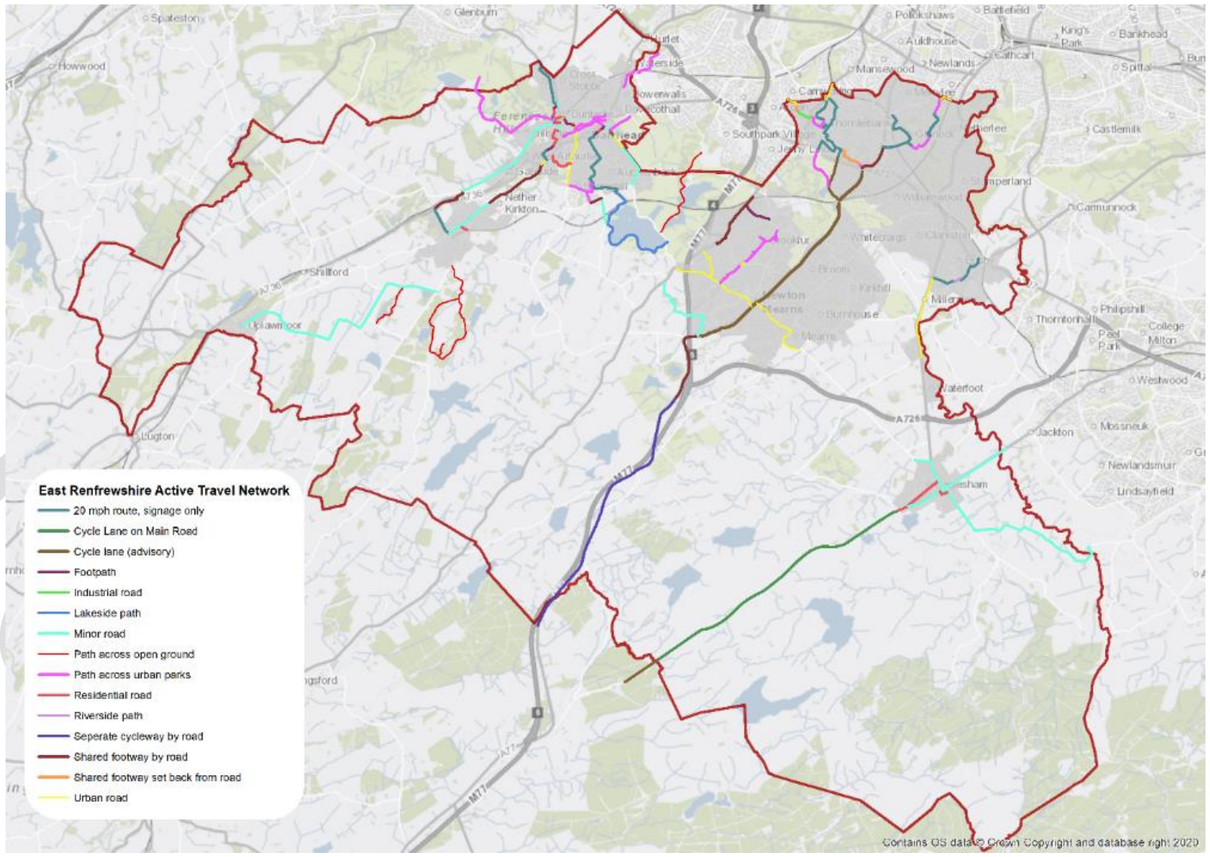
5.2.4 An overview of an indicative 2018 local cycle network is outlined in Figure 17.

5.2.5 Where cycling facilities exist these are generally shared facilities with pedestrians or vehicles and offer variable levels of service. Where cycle infrastructure is segregated from motor traffic, this is predominantly located in greenspace or rural environs away from main urban centres. As a result, these facilities generally do not provide direct links to employment or key services.

5.2.6 Furthermore, where routes do exist they rarely form part of a cohesive network, linking key services, facilities and destinations

5.2.7 There is no National Cycle Network in East Renfrewshire.

Figure 17: East Renfrewshire's Active Travel (Cycle) Network (2018)



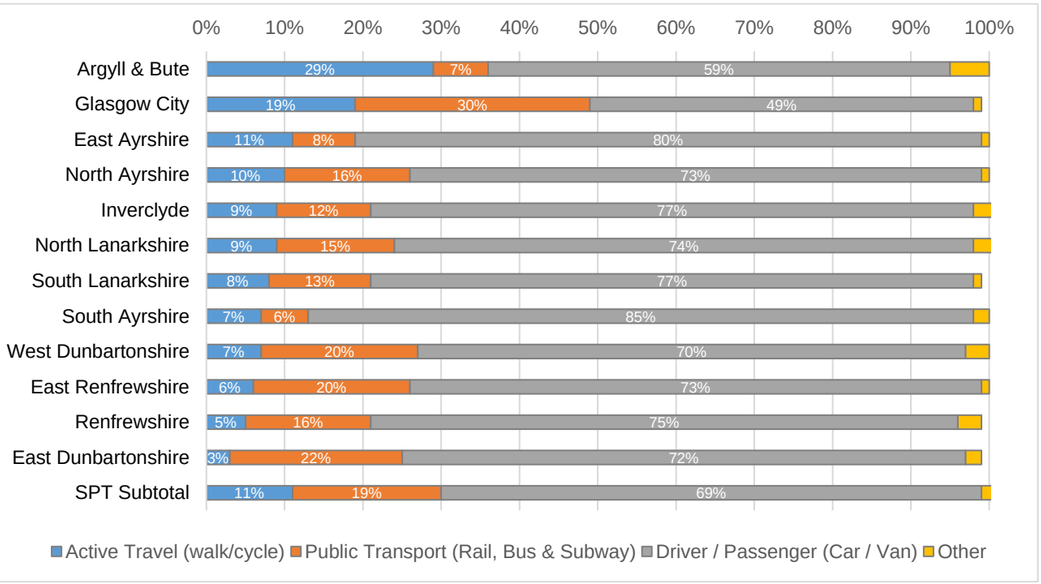
5.3 Mode Share

5.3.1 Figure 18 shows the modal split for travelling to work as percentages for the SPT region. This based on 2019 household survey data and sorted in order of active modal share.

5.3.2 Analysis suggests that East Renfrewshire has a lower-than-average active travel modal share with a higher-than-average car modal share. Public transport usage is mixed with higher rail and lower bus use.

5.3.3 These figures broadly align with general travel mode statistics presented in Section 3.5, suggesting high car usage with relatively less journeys being undertaken by more active means.

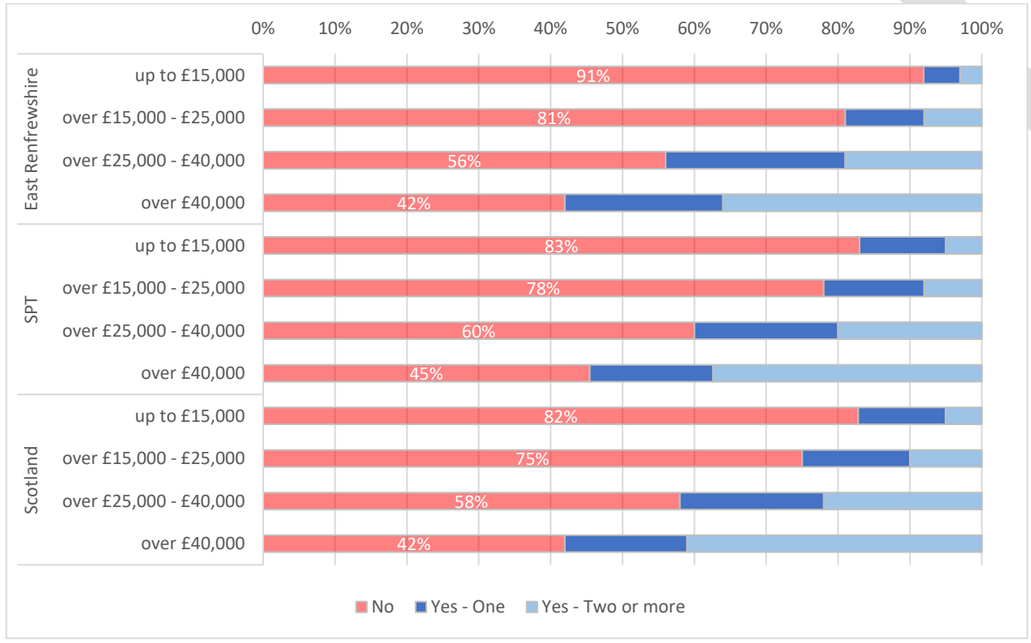
Figure 18: Regional Modal Share; Travel to Work (Categories) [13]



5.4 Bike Access

5.4.1 Not being able to access a bicycle is a key barrier to cycling. 2017-19 household survey data presented in Figure 19 shows the average percentage of people with access to bicycles in East Renfrewshire compared to SPT area and Scotland. This is further broken down by income and number of bicycles available.

Figure 19: Access to Bicycles (2017-19) [13]



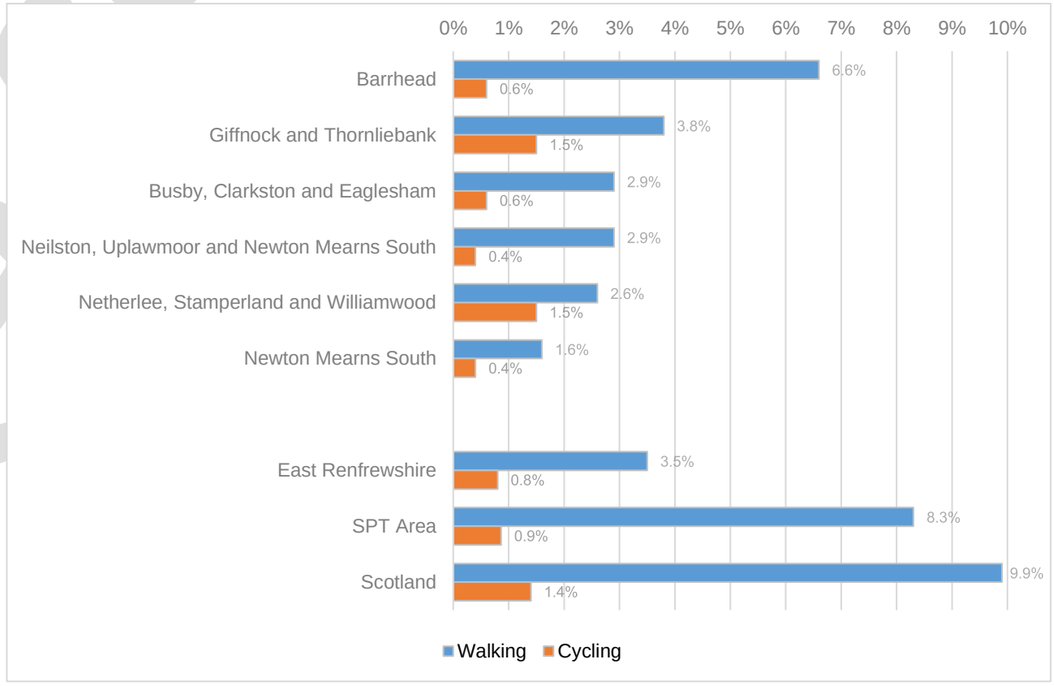
5.4.2 East Renfrewshire is a not major outlier when it comes to bike access. Figures do however suggest that those on lower incomes without a bike is higher than regional and national averages. Overall bike ownership broadly representative of wider trends and disparities in access across income groups, with more affluent households more likely to own one or more bikes.

5.5 Active Travel Patterns

Travel to place of work or study

5.5.1 2011 Census data presented in Figure 20 suggests walking to work by residents of East Renfrewshire is below national and regional averages. Cycling rates are comparable with regional averages, however, are lower than national figures.

Figure 20: Active Travel Mode Share (Transport to place of work or study) [12]



5.5.2 Analysis suggests that walking mode share for commuting purposes is higher in more deprived areas where, it may be inferred, a greater proportion of the population both live and work. Higher cycle commuting rates are located in areas adjacent to the Glasgow City, a key centre of employment.

5.5.3 It should be noted that residents who commute to work or study via public transport (c. 15%) may walk or cycle in order to access bus or train services, although the proportion who do so cannot be determined from available data.

5.5.4 In terms travel to work age – gender split, data presented in Figure 21 suggests a greater number of females walk to work compared to males, with the exception of 16-24 year old male group. This trend generally increases with age.

5.5.5 For cycling to work, data presented in Figure 22 suggests this remains a predominantly male activity, with driving to work more evenly split between male and female demographics (as per Figure 23).

Figure 21: Transport to place of work or study; Walking age - sex comparison [12]

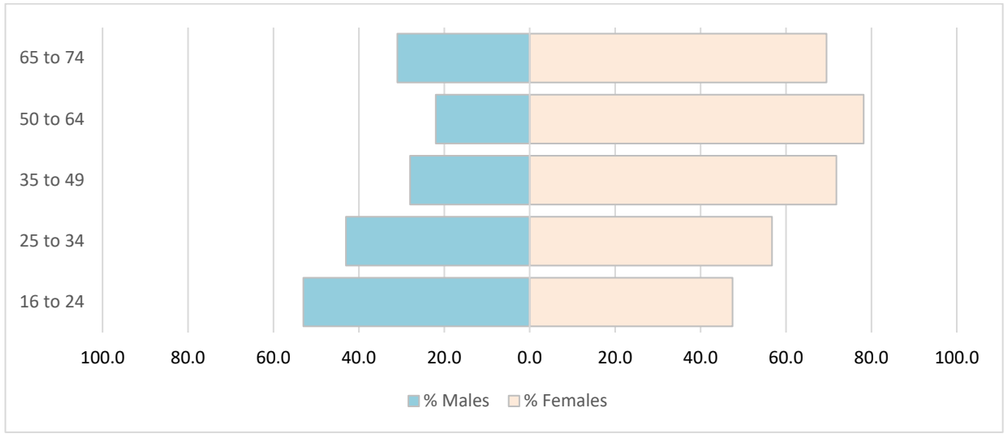


Figure 22 Transport to place of work or study; Bicycle age - sex comparison [12]

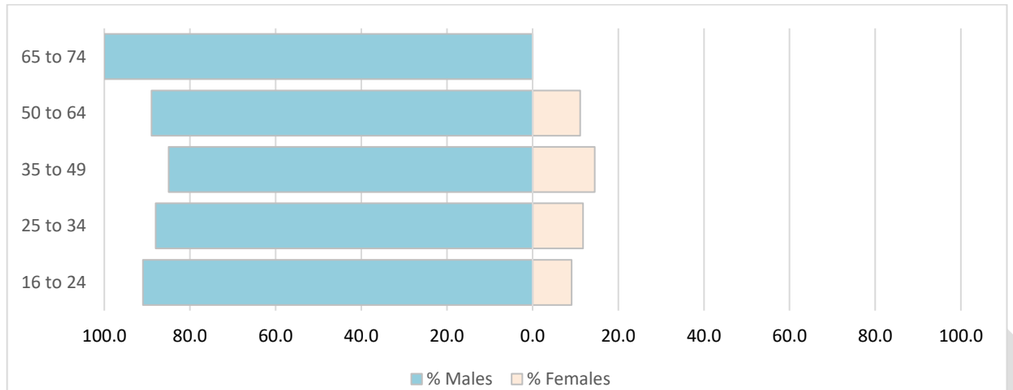
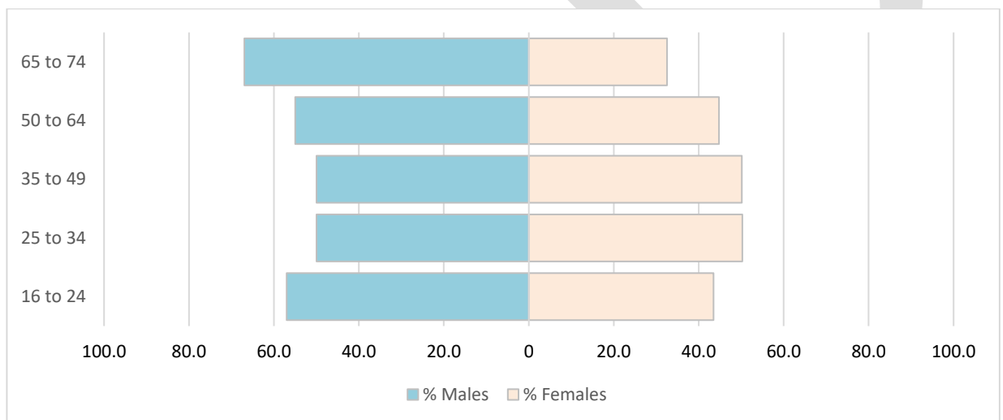


Figure 23: Transport to place of work or study; Driving age - sex comparison [12]



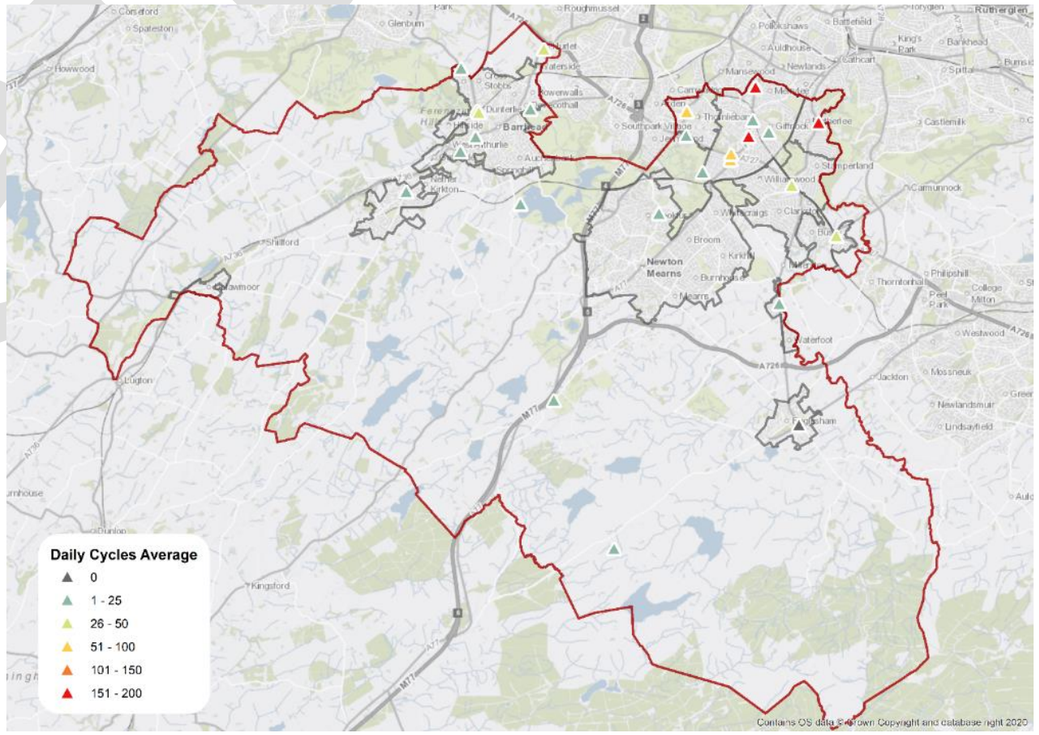
Active Travel Data Analysis – Spatial

5.5.6 During Wednesday 26th and Thursday 27th September 2018, 26 counts took place across East Renfrewshire as part of Cycling Scotland's ongoing National Monitoring Framework [24]. The results of these are presented in Figure 24 and Figure 25 as a baseline 'snapshot' of walking and cycling patterns in the area.

5.5.7 Figure 24 suggests cycling occurs mainly along key road corridors, namely the A77, B767 and A727 corridors within the east of the authority area. This aligns with roadside surveys and Strava[2] data analysis [25], which suggests most cyclists use main roads and appear to travel in relatively direct lines

5.5.8 Figure 25 illustrates high levels of pedestrian activity at train stations within Town Centres, with Clarkston, Giffnock and Barrhead stations all experiencing relatively high volumes of pedestrian activity. These differences may be attributed to commuting patterns within the East Renfrewshire area.

Figure 24: Temporary Cycle Counts (2018)



[2] Strava is an internet service for tracking physical exercise. It is mostly used on mobile devices for cycling and running using GPS data

Figure 25: Temporary Pedestrian Counts (2018)

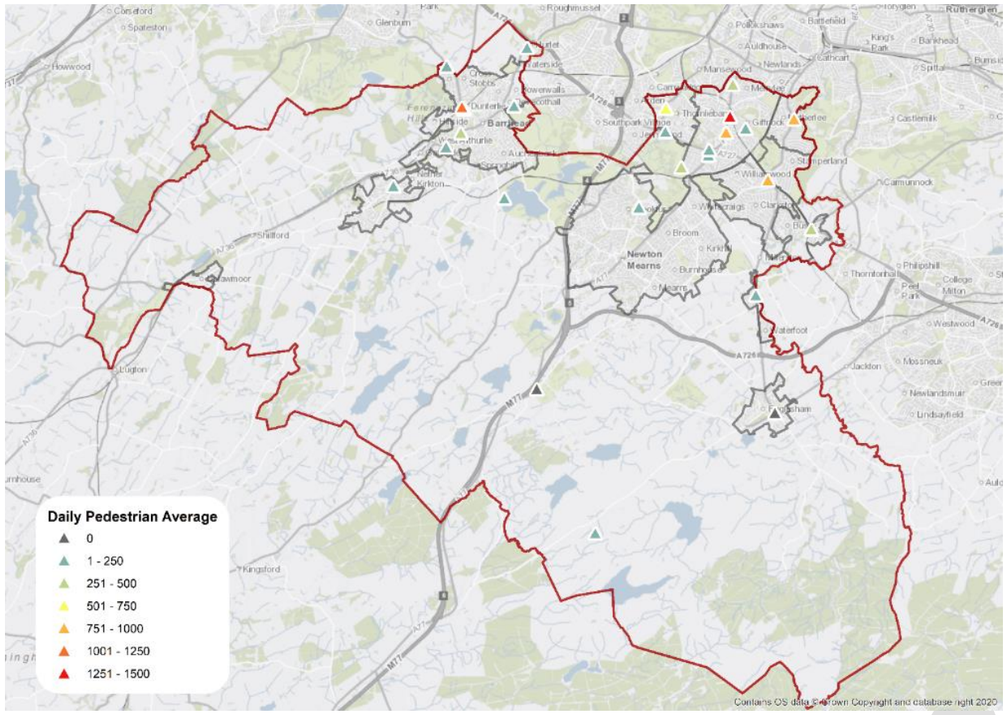


Figure 26: Percentage Change in Cycling at East Renfrewshire Counter Sites

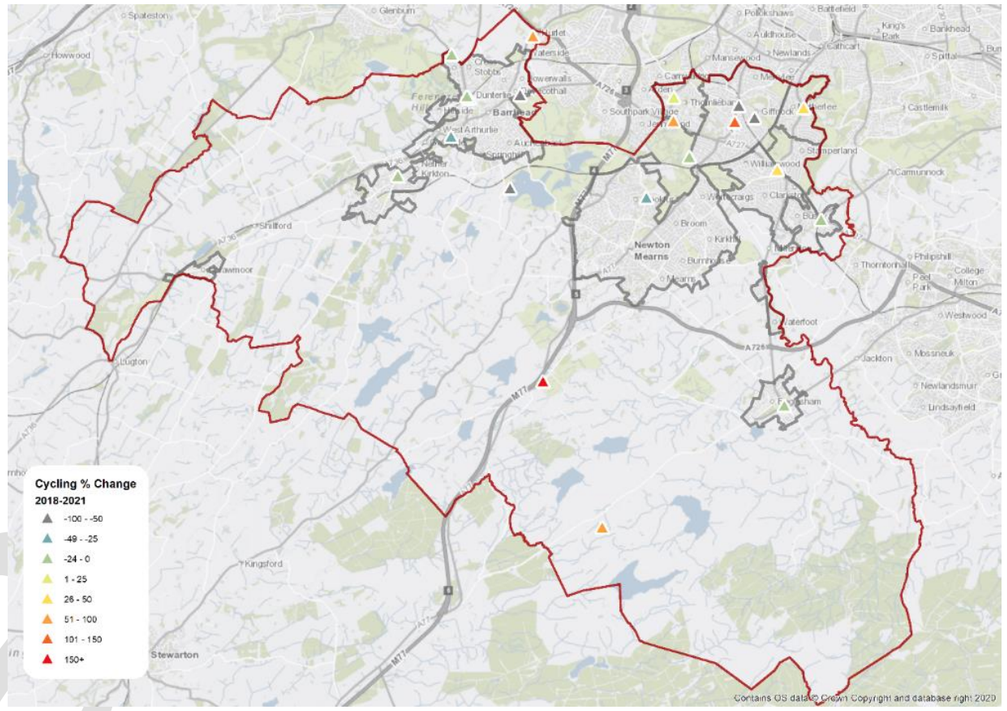
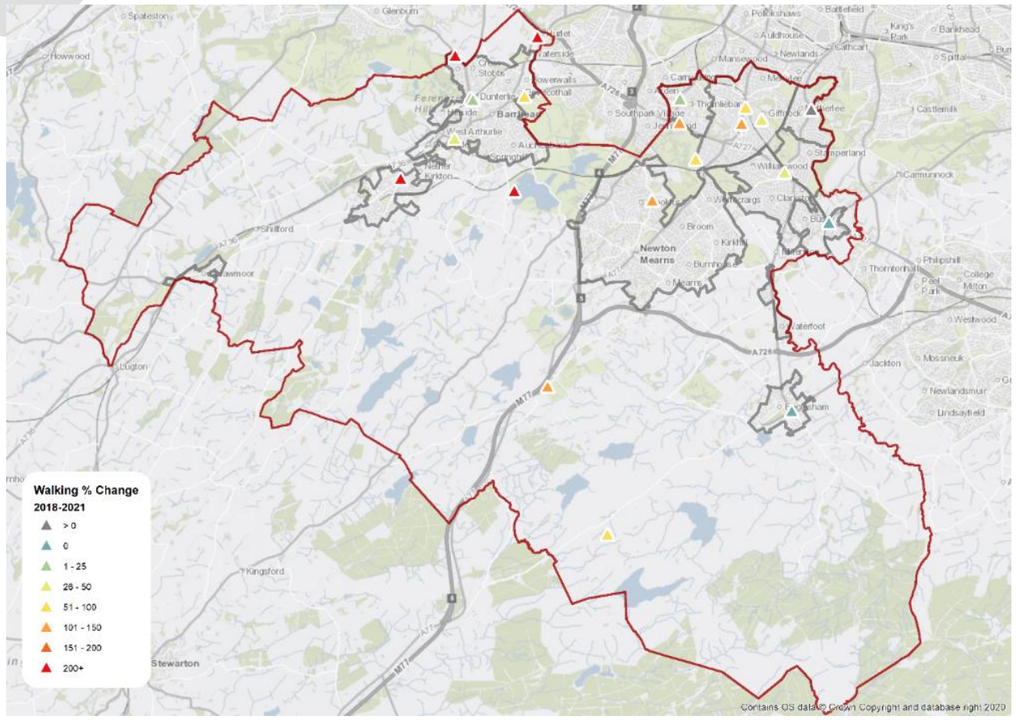


Figure 27: Percentage Change in Walking at East Renfrewshire Counter Sites



Active Travel Data Analysis – Temporal

5.5.9 Data from historical active travel counts undertaken from 2014 to 2017 suggests that overall walking and cycling journeys during this period decreased by approximately 10% and 15% respectively [26] .

5.5.10 Since 2018 Cycling Scotland have undertaken more standardised bi-annual traffic counts as part of the National Monitoring Framework [24]. This suggests both walking and cycling rates were generally stagnant, prior to a significant increase in 2020, before dropping off in 2021 to 2019 levels. This peak in use can be attributed to the COVID-19 pandemic and the implementation and subsequent removal of lockdown restrictions (further discussion in Section 9.4)

5.5.11 This trend is also reflected in cycle modal share which increased to 4% in May 2020 due to both increases in levels of cycling and a reduction in all forms of transport. By May 2021, both the East Renfrewshire and the Scotland aggregate had returned to under 1% cycling modal share.

5.5.12 It is evident that walking is more prominent than cycling within East Renfrewshire (reflecting wider regional and national trends), although it did experience the larger relative decrease after COVID-19 pandemic restrictions had been removed.

5.5.13 Figure 26 & Figure 27 illustrate the percentage changes for walking and cycling at each of East Renfrewshire's temporary counter sites from 2018 to 2021.

5.5.14 Taking into account seasonal factors, the above analysis suggests the greatest percentage increases for cycling were located on key movement corridors. This, together with analysis of Strava data, supports an increased level of recreational leisure cycling during the COIVD-19 pandemic [27]. Conversely, counters located next to the area's train stations experienced substantial drops in cycling counts – potentially being affected by the reduced levels of commuting or Town Centre visits during the COVID-19 pandemic.

5.5.15 Additional analysis carried out in 2022 [27] suggests that trial temporary cycle lane segregation along the A77 Corridor, which in May 2020 saw an increase of 297% compared to September 2019 counts, helped retain elevated cycling levels into 2021 when compared to control sites that saw no physical changes. This suggests temporary measures to provide separation between cyclists and other vehicles may have had a positive impact on people's propensity to cycle and cycling numbers. However, by September 2021 the cycling modal share along the corridor had dipped to pre-2020 levels

5.5.16 Walking counts suggest a level of increased activity mirroring the increased number of walking trips seen during the COVID-19 pandemic. The highest increases can be seen in Barrhead, Neilston and Balgray Reservoir where counters were located next to outdoor leisure destinations and popular walking routes. These increases could be attributed to the increased levels of leisure walking trips undertaken during the COVID-19 pandemic and thus may not reflect long-term behaviour habits.

5.5.17 Overall, the above data has been heavily influenced by the COVID-19 pandemic and does not reflect a long-term picture of active travel habits within East Renfrewshire with further monitoring necessary to fully understand active travel patterns across within the area.

5.6 School Travel

School Travel Assessment

5.6.1 In 2019 ERC undertook an assessment of school travel across all schools in the area. These assessments consisted of baseline data review, stakeholder engagement, analysis and action plan development. The main conclusions are outlined below:

Table 11: ERC School Travel Assessment - Conclusions [28]

Conclusion	Description
School Travel Pattern Variability	School travel patterns vary considerably across East Renfrewshire. Patterns also vary between facilities type (e.g. Family Centre, Primary School, High School).
Socio-Economic Influences	The available statistical evidence suggested that there are several influential factors which impact school travel patterns. These included car ownership, economic activity, local geography, catchment size and available facilities / physical infrastructure (e.g. paths and road crossings).
Impact of Working Parents	In the context of acceptable walking distances, the analysis showed that walking distance did not appear to be the primary determining factor in travel choice. Instead, it appeared that the demography of the school population influenced travel choice. In general, pupils within areas of high employment and correspondingly high car availability exhibit particularly high private car use for school travel.

5.6.2 Availability and accessibility of the private car objectively influences how East Renfrewshire residents undertake the 'school run'. Notwithstanding, distance features as the most frequently selected subjective reason for influencing how a parent and/or their child travels to school, followed by working hours / schedules, health & wellbeing and convenience.

5.6.3 Findings from stakeholder feedback suggest that car use disproportionality affects the 'school run' across the area. The resultant impacts of car use around schools - namely obstructive parking and / or dangerous manoeuvres - impacts the attractiveness and perceived safety of walking / cycling, which in turn discourages active travel. Traffic management around schools, followed by improved cycling routes to school and traffic calming featured as the most common parent responses to enabling more active travel.

5.6.4 Based on survey finding, the main factors that influence a pupil's decision to travel by a certain mode was exercise / fitness, followed by spending time with friends and the weather. Feedback suggest that walking and cycling are a desired mode of travel, with car featuring as the third most preferred mode after bus.

5.6.5 School Travel Assessment consultation and survey findings are included within Appendix A.

5.6.6 In addition to specific actions for 'School Zones', potential area wide actions include, but are not limited to:

- identification of suitable park & stride locations at each school which exhibits notable traffic and parking issues
- introduction of an "Observe the School Zone Campaign" that would seek agreement with parents to avoid driving within the school zone at drop off and pick up times.
- launch of an area wide campaign to present findings of the research and highlight that to those who currently undertake the School Run that their behaviours are the single largest barrier to the uptake of walking and cycling.

Sustrans Hands Up Scotland Survey (HUSS)

5.6.7 Each September, schools across Scotland complete a survey by asking pupils 'How do you normally travel to school?' This provides official annual statistics on school travel patterns.

5.6.8 Most recent 2021 HUSS data (Figure 28) shows that both younger (P1-P4) and older (S4-S6) age groups are more likely to be driven / drive to school, although the proportion of Park & Stride is higher for Primary pupils when compared to Secondary. Walking is the most popular mode of travel for all pupils. Figures suggest that younger pupils are more likely to cycle / scoot / skate albeit from a low baseline. Bus share is higher for Secondary pupils and likely to be attributed to longer travel distances.

Figure 28: Travel Mode to School - East Renfrewshire Overview [29]

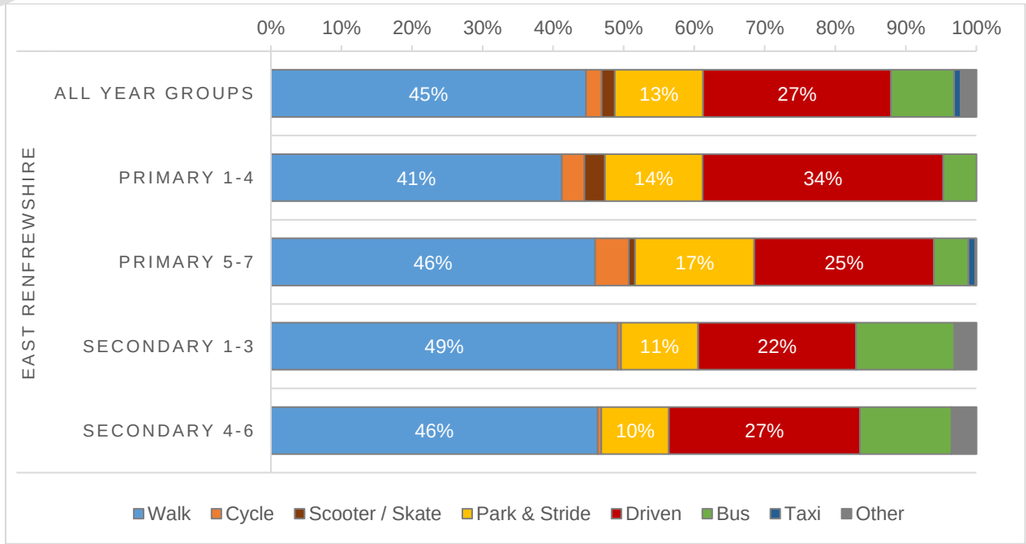
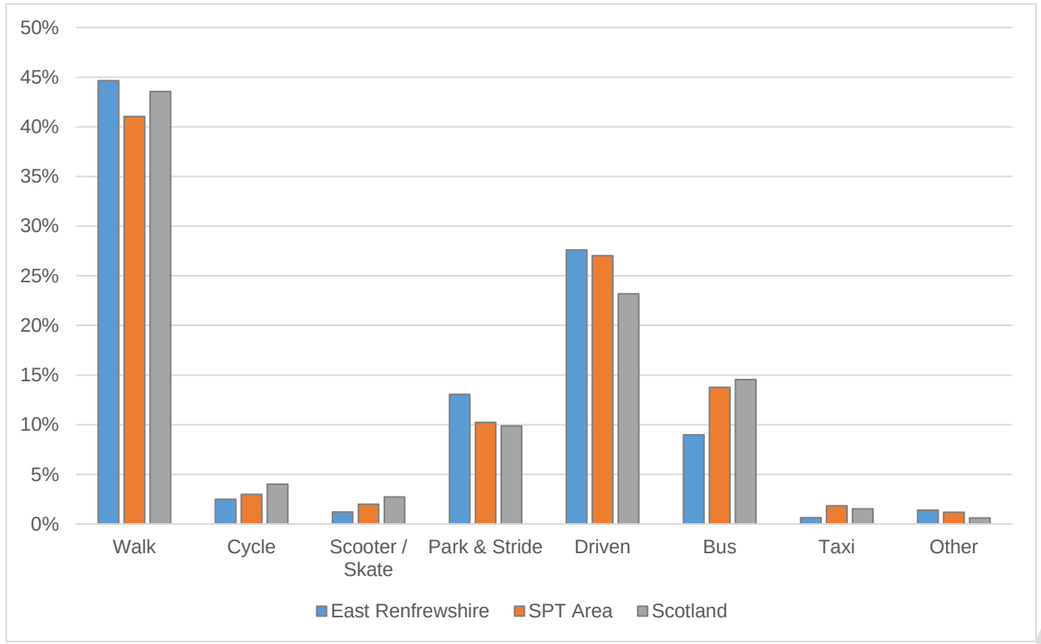


Figure 29: School Travel Comparison [29]



5.6.9 Figure 29 suggests school travel patterns are largely consistent with broader school travel trends. These suggest slightly higher rates of walking, driving and 'park & stride' than the regional and Scottish averages. This compares to lower than average cycle, scooter / skate, bus and taxi use

Figure 30: East Renfrewshire School Travel Modes Over Time – Primary School [30]

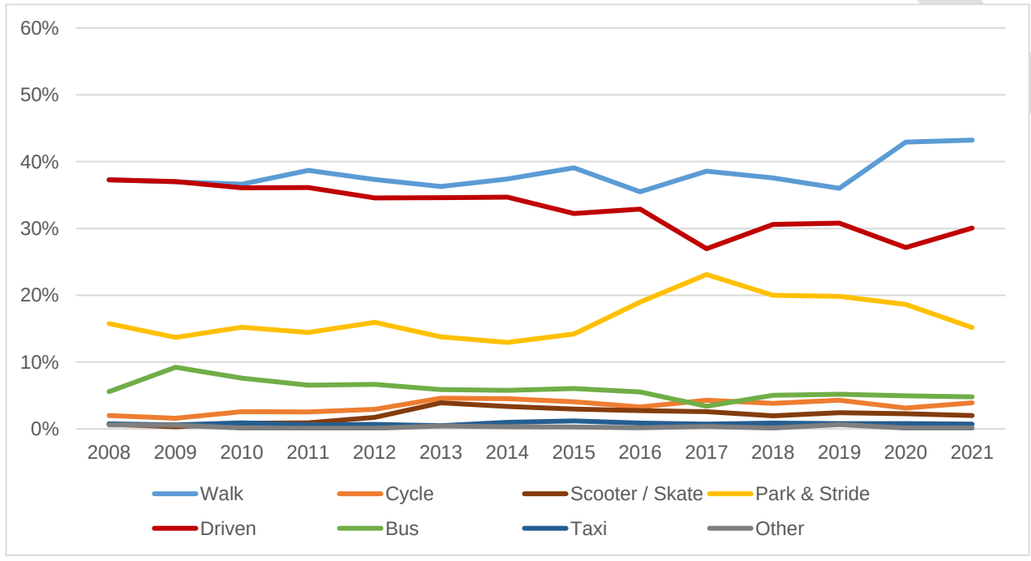
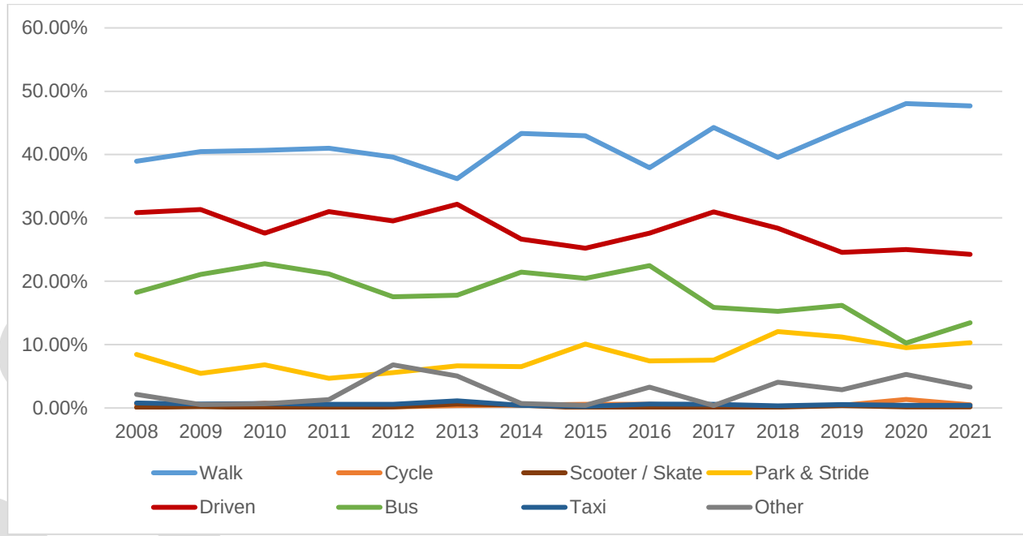


Figure 31: East Renfrewshire School Travel Modes Over Time - Secondary School [30]



5.6.10 Analysis of school travel trends suggest that walking rates for both primary and secondary school pupils has increased over time. In comparison, driving to school has decreased, although the degree which this may be offset by an increase in 'park & stride' is unknown. Cycle and scooter / skate travel has increased modestly for primary school pupils (albeit from a low baseline), although there is no clear increase for secondary school pupils. Bus use, which is a more prominent mode of transport for secondary school pupils, has declined over time.

5.7 Summary

5.7.1 This chapter sought to understand walking and cycling patterns within East Renfrewshire and establish factors which inhibit active travel uptake within the area.

5.7.2 The lack of coherent, cohesive and attractive active travel network appears to be a barrier to the uptake of more cycling within the area. In general, this does not provide links to key services, facilities and destinations, thus limiting any significant modal shift

5.7.3 Walking mode share remain below regional and national averages, suggesting less journeys being undertaken by more active means relative to other areas. This may in part be due to quality of active travel infrastructure and networks, but likely influenced also by social attitudes, geography and individual circumstances, including car access (as evidenced by community feedback in Chapter 4).

5.7.4 Access to bikes in East Renfrewshire reflect broader regional and national trends. This indicates people from lower income households are less likely to have access to a bicycle compared to higher income households.

5.7.5 Analysis of active travel data suggests differences across local areas (i.e. active commuting patterns influenced by factors such as deprivation, proximity to employment etc) and across gender, with walking to and cycling to work a predominantly female and male activity respectively. COVID-19 pandemic was major disrupter to walking / cycling habits, particularly with regard to utility and leisure journeys, with longer term impacts not yet clear.

5.7.6 Although active travel among pupils is generally increasing (with pupils driven to school decreasing), car use continues to have a disproportionate impact around schools. This in turn impacts perceptions of active travel as a viable and safe way of travelling to school. Notwithstanding, it is acknowledged that there are various complex and multi-faceted influencing factors that impact school travel patterns.

6 Public Transport Baseline

6.1 Introduction

6.1.1 An effective public transport system can offer a viable alternative to the private car and can help facilitate modal shift to more sustainable forms of transport and support equality and net zero ambitions.

6.1.2 This chapter seeks to provide an overview of East Renfrewshire's public transport systems and to identify issues and opportunities that may be addressed through the LTS.

6.1.3 Based on 2019 analysis, there are 296 active bus stops, 85 bus service variations and 9 railway stations. This forms the framework for East Renfrewshire's public transport provision [31].

6.1.4 Public transport is managed by a number of different operators across the Glasgow City Region. Network Rail are responsible for rail infrastructure with ScotRail operating local and regional rail services. The majority of bus services are managed by private operators and include First Bus, McGills and Stagecoach.

6.1.5 SPT have a number of statutory roles and responsibilities in relation to public transport, including operation of the Glasgow Subway and supporting socially necessary bus services, community transport, and school transport (on an agency basis). Other duties include operation and administration of the region's Zonecard, Strathclyde Concessionary Travel Scheme and grant funding transport infrastructure in the region.

6.2 Bus Stop Frequency

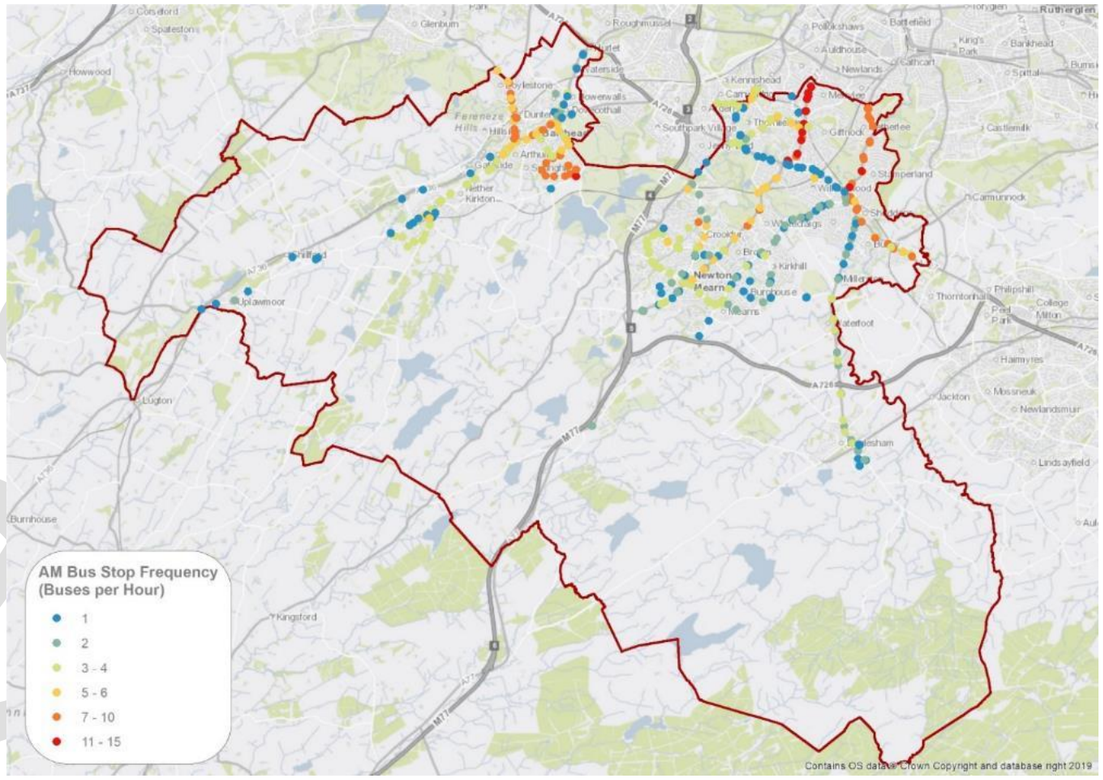
6.2.1 In order to provide an overview of bus service frequency, 2019 analysis of bus timetables calculated the average number of buses per hour within each of the below listed time periods, with the outputs mapped.

- **AM Peak:** 0700-0959 hrs
- **Inter Peak:** 1000-1559 hrs
- **PM Peak**:1600-1859 hrs
- **Off Peak:** 1900-0000 hrs

6.2.2 It should be noted that blue / green colours display low frequencies and orange to red display higher frequencies.

AM Peak Bus Stop Frequency

Figure 32: Bus Stop service frequency AM Peak

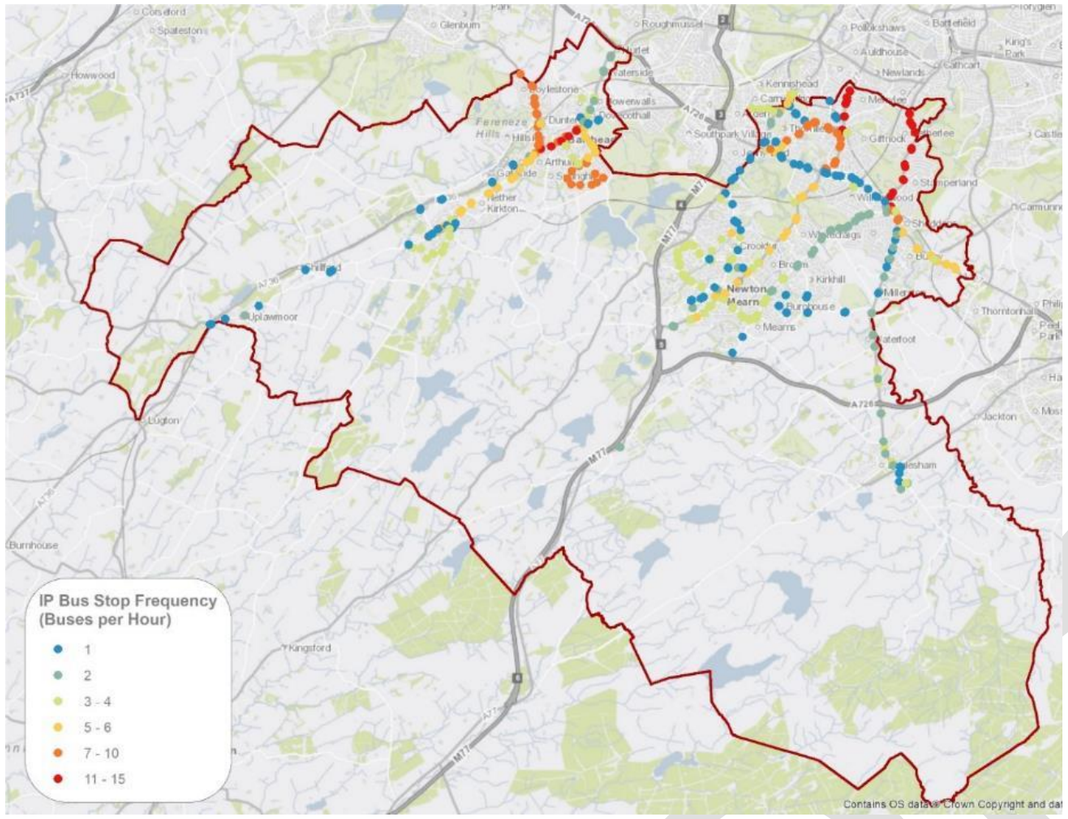


6.2.3 From the map above, displaying AM Peak average bus services per hour stopping at each bus stop in East Renfrewshire, the following key points can be drawn:

- The routes between Uplawmoor to Neilston and Eaglesham to Busby, display relatively low frequencies
- Barrhead, Giffnock, Thornliebank and to an extent Busby all benefit from higher frequencies of services
- Two corridors specifically display very favourable frequencies, the A77 and B767
- There are low frequencies present along Rouken Glen Road, one of the main east-to-west routes in the local authority area
- With the exception of the A77, other routes to/from Newton Mearns experience relatively low frequencies
- 30% of bus stops have a frequency of 4 services an hour, while a further 30% have a service frequency higher than this

Inter Peak Bus Stop Frequency

Figure 33: Bus Stop service frequency Inter Peak

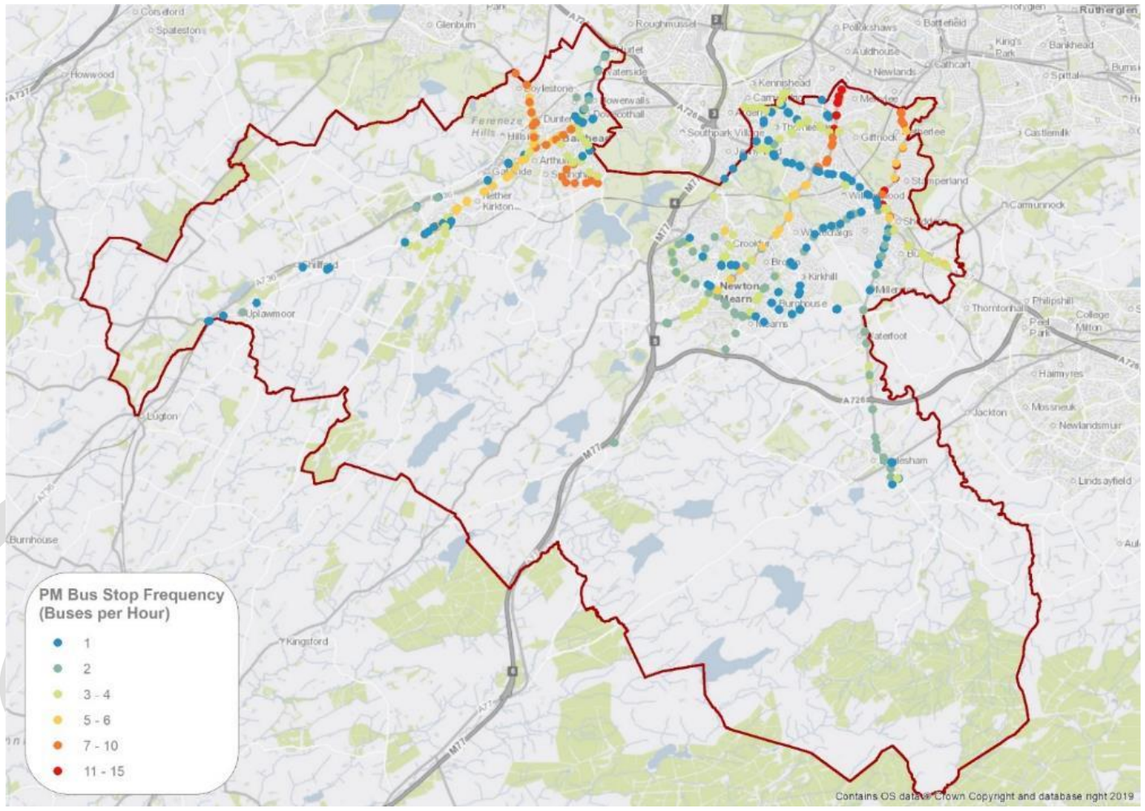


6.2.4 From the map above, displaying Inter Peak average bus services per hour, stopping at each bus stop in East Renfrewshire, the following key points can be drawn:

- The routes between Uplawmoor to Neilston and Eaglesham to Busby, experience roughly the same level of service as in the AM Peak
- Barrhead witnesses a slight increase in frequencies at the bus stops along Main Street
- Rouken Glen Road frequency patterns reflect the AM Peak
- The B767 through Stamperland experiences an increase to service frequency, as does the horseshoe route between Giffnock and Thornliebank along Robslee Road – which could be a reflection on school traffic
- Service frequency along the A77 slightly reduces
- 37% of bus stops have a frequency greater than 4 services per hour.

PM Peak Bus Stop Frequency

Figure 34: Bus stop service frequency PM Peak



6.2.5 From the map above, displaying PM Peak average bus services per hour, stopping at each bus stop in East Renfrewshire, the following key points can be drawn:

- The routes between Uplawmoor to Neilston and Eaglesham to Busby, again show no material difference in frequencies
- General service provision around Newton Mearns reduces with the majority of bus stops showing a reduction from 3-4 services an hour to 2
- Frequencies in Barrhead return to a similar pattern as the AM Peak
- The B767 also witnesses a decrease in service provision, as does Robslee Road
- Rouken Glen Road displays the same frequency levels throughout the whole day with approximately 1 service per hour
- Overall service frequency reduces below the AM Peak, with the number of bus stops with service provision greater than 4 buses an hour 3% lower (27%), while those with at least 4 services an hour reduces by 4% to 26%.

Overview

6.2.6 It can be inferred from the above analysis that overall service frequency is particularly low between the more urban and rural areas, specifically, links to Uplawmoor and Eaglesham.

6.2.7 With the exception of the A77, other north-south corridors only show increased frequency numbers towards the northern extent of the local authority boundary in the east serving Glasgow City.

6.2.8 In the west, Barrhead has a good frequency level but this is heavily focused along the B771 corridor towards Paisley, and not north-east towards Glasgow.

6.2.9 Alternative routes linking Newton Mearns to the rest of the local authority area show low levels of service frequency, while one of the main east-west transport corridors along the A727 (Rouken Glen / Eastwoodmains Road) displays minimal service provision.

6.2.10 There are no direct bus services between Barrhead and Newton Mearns, the two largest settlements in the local authority area.

6.2.11 It is evident that north south routes (and particularly those north of A727 Eastwoodmains / Rouken Glen Road) have higher frequencies than east-to-west routes and outlying areas. This creates disparities in bus service provision both within and between areas of East Renfrewshire.

6.3 Bus Time Reliability

6.3.1 One of the main factors influencing someone's decision to travel by bus is the ability to complete a journey reliably.

6.3.2 Analysis was undertaken of two bus routes within the East Renfrewshire using Real Time Passenger Information (RTPI) data prior to 2020 to identify reliability issues. Data was collected over a three-month period and accounts for dwell time for the boarding and alighting of passengers. Further information is included within Appendix B and includes only the AM and PM plots.

6.3.3 Bus services assessed includes the First Bus service 38, which utilises the A77 and provides connectivity between East Renfrewshire, Glasgow City Centre and beyond. Additional analysis includes the Stagecoach X76 which, although not stopping within East Renfrewshire, does transit through the local authority area using the M77 and therefore inform possible future services utilising the M77.

6.3.4 Results highlighted the variability of travel times across each day

- M77: There are travel time issues along the M77 during the AM Peak in the Northbound direction. The PM Peak southbound does highlight some reliability issues, however to a much lesser extent than the AM Peak Northbound
- M77: PM Peak northbound and AM Peak southbound experience no real issues, with times being relatively reliable.
- A77: Reliable journey times in both directions across all time periods, with only Northbound in the AM Peak showing any significant variance.

6.3.5 The results highlight that AM journey times into Glasgow are significantly more disrupted than other trips, with the inverse PM commuting trips experiencing relatively little disruption resulting in divergent bus journey times throughout the day.

6.3.6 Again, it should be noted that this data was gathered before the COVID-19 pandemic and may adjust according to changing travel habits.

6.4 Bus Average Speeds

6.4.1 Bus journey times are often perceived as unreliable and, without appropriate evidence, it is often hard to dispel or validate in order identify possible solutions.

6.4.2 Congestion on the road network is recognised as a key issue. It is noted that Glasgow has suffered from slower bus speeds - 15% decline over a decade - than anywhere else in Scotland, with all observed bus routes displaying an increase in journey times compared to historical base data [32]. Increased bus journey times impact the ability for services to maintain a reliable service pattern, which in turn impacts arrival times, customer satisfaction, patronage and ultimately service viability.

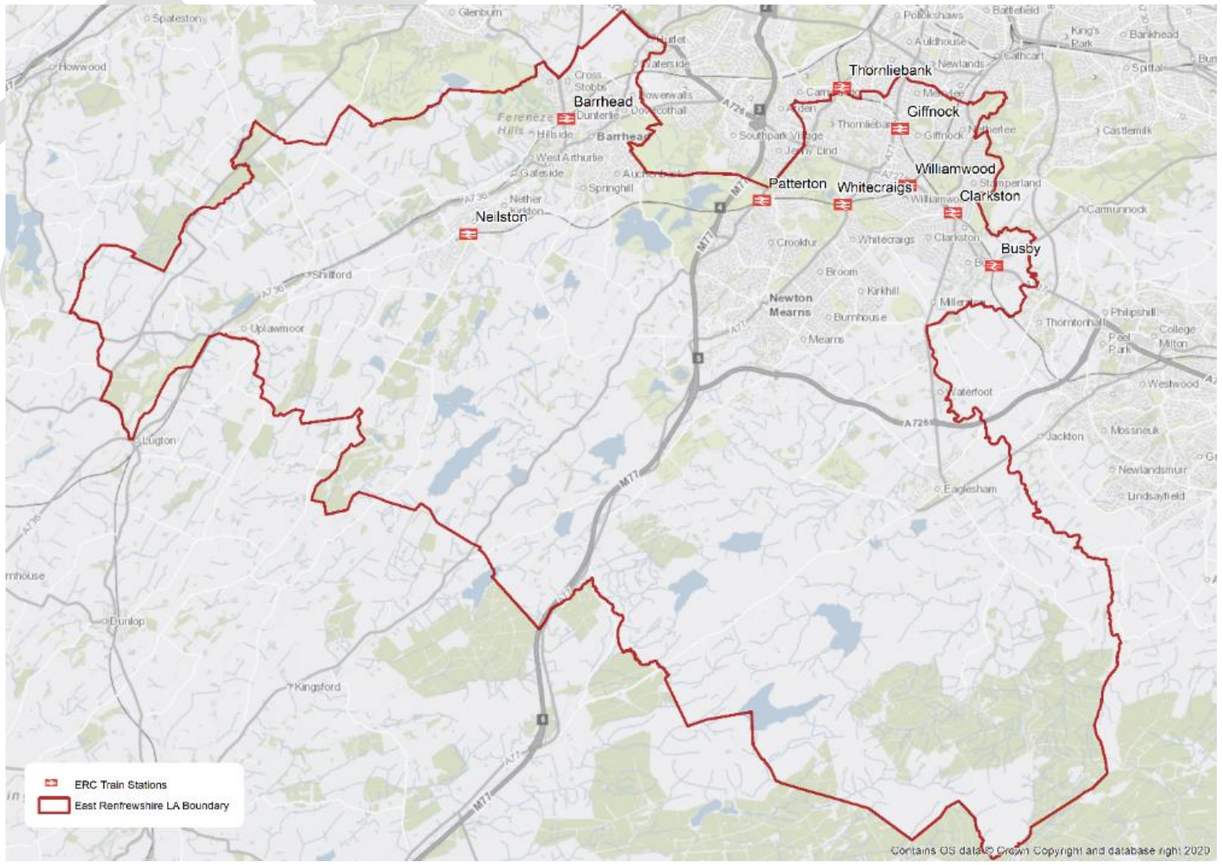
6.4.3 Data on travel speeds along key routes within the Eastwood and Newton Mearns areas suggests potential challenges with regards to reliability of travel times through the local authority area with variable speeds observed along many key corridors depending on time of day [31]. Consequently, the overall attractiveness of travelling by bus in the AM peak is likely to be low, which in turn impacts the potential for future patronage uptake. Further information on this analysis can be found in Appendix C.

6.5 Rail

6.5.1 Analysis was undertaken to understand the operation of East Renfrewshire's rail network and ascertain how rail services influence travel within and beyond East Renfrewshire.

6.5.2 Figure 35 outlines the nine train stations within East Renfrewshire. These are located on three rail lines operating from Glasgow Central to Neilston, East Kilbride and Barrhead (and beyond to Kilmarnock and Carlisle).

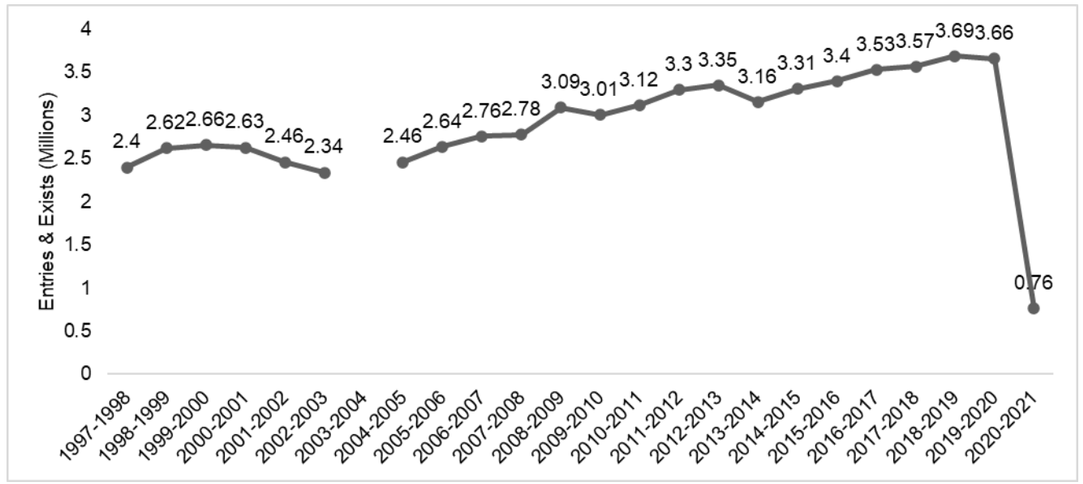
Figure 35: East Renfrewshire Train Stations



Rail Demand

6.5.3 Figure 36 outlines historical station usage trend data for the total number of entries and exits at East Renfrewshire's nine train stations combined.

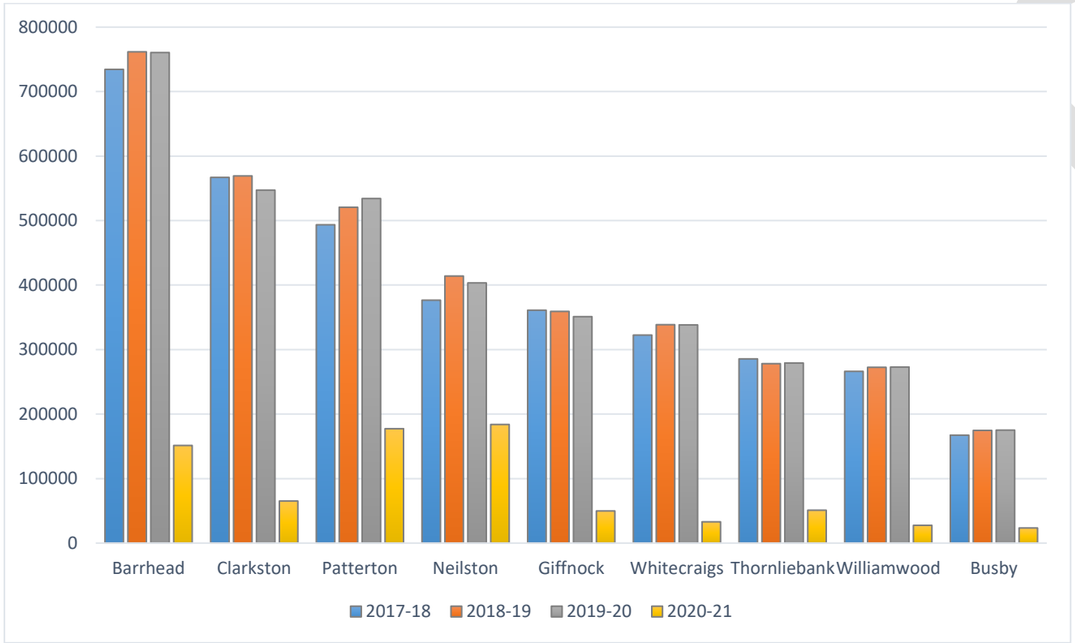
Figure 36: Total Number of Entries and Exits across East Renfrewshire's Train Stations [33]



6.5.4 Figure 36 illustrates how that from 2004, the number of rail journeys within East Renfrewshire gradually increased until 2020, following dramatic reduction with the onset of the COVID-19 pandemic.

6.5.5 This data outlines how, prior to the pandemic, there was a growing demand for rail travel within East Renfrewshire (discussed further in Section 9.4). Figure 37 provides a breakdown of entry and exist trends at East Renfrewshire rail stations.

Figure 37: Estimates of Station Usage - Entries & Exits [33]



6.5.6 Figure 37 shows that Barrhead is the busiest station within East Renfrewshire, indicating high demand for rail within the western side of the authority area. Clarkston and Patterton are second and third busiest stations, again highlighting strong demand within these areas.

6.5.7 Use of rail services between 2019/20 and 2020/21 declined between 80% and 90% at all stations with the exception of Patterton and Neilston, which declined 67% and 54% respectively.

6.5.8 Expanding rail capacity in order to meet local demand (and increasing population growth; see Section 3.3) would broadly be in line policy objectives (i.e. mode share, reduction in car kilometres, and emission reduction targets). The extent of this future demand is however largely dependent on post-COVID travel patterns and operational capacity of rail infrastructure.

Park and Ride

6.5.9 2015 station data was obtained from ScotRail for the East Renfrewshire area. An overview of relevant data is presented in Table 12.

Table 12: ScotRail Car Park Data Overview

Station	Barrhead	Busby	Clarkston	Giffnock	Neilston	Patterton	Thornliebank	Whitecraigs	Williamwood
Does the station have a car park?	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
How many standard free car parking spaces are provided?	8	9	0	109	30	128	0	172	52
Are there any charged spaces?	No	No	No	No	No	No	No	No	No
How many blue badge spaces are provided?	2	1	0	4	2	4	0	2	2
How many electric vehicle parking spaces are provided?	0	0	0	0	2	2	0	0	0
Is there any evidence of illegal or indiscriminate parking? (Manager Survey)	Yes	No	No Response	No	No	Yes	No Response	Yes	No Response
Car Park Occupancy (2015)	95%	No Data	N/A	96%	82%	95%	N/A	94%	No Data

6.5.10 Table 12 highlights Giffnock, Patterton and Whitecraigs as the main Park and Ride train stations within East Renfrewshire. It also shows that all car parks were running at close to maximum capacity at the time of the survey in 2015, although it should be noted that travel behaviours may have been impacted in the intervening period by the COVID-19 pandemic.

6.5.11 2019 surveys for Clarkston Goods Yard / Library Car Park – a popular unofficial Park & Ride for Clarkston Train Station - suggested that weekday parking occupancy exceeds capacity, with vehicles parking outside designated spaces for large periods of the day [34].

6.5.12 Analysis undertaken by ERC to support Davieland Road streetscape proposals highlighted significant parking demand at Whitecraigs Train station, which induced commuter parking overspill into nearby residential streets during peak times.

6.5.13 The above data suggests significant demand for park and ride within the local authority area, although, it should be noted that this data was collected prior to the COVID-19 pandemic, so demand for rail services may have since changed (Section 9 for further details).

Overview

6.5.14 Overall, the ramifications of the COVID-19 pandemic have made the future planning of rail and associated facilities within East Renfrewshire challenging. Pre-2020, the demand and use of rail within East Renfrewshire was growing, with Barrhead, Clarkston and Patterton the busiest stations within the area.

6.5.15 Correspondingly demand for park and ride within the area also increased with pressures in some locations becoming unsustainable. Although, this demand dramatically dropped during and the COVID-19 pandemic, the long-term future of public transport provision is currently unclear (see Section 9 for more details).

6.6 Public Transport Walking Catchments

6.6.1 Providing access to public transport networks on foot is a vital component of a successful transport system. As such, analysis was undertaken to determine walking catchments of East Renfrewshire's bus and train network. Specific focus was given to the area's localities, as this is where most of East Renfrewshire's public transport network and population exists[3].

Bus Stops

6.6.2 A radius of 400m was applied to each bus stop[4] [35]. A cleaning exercise was undertaken to ensure that bus stops with negligible bus frequencies (e.g. those which only supply a school service in the AM) were removed to prevent these from skewing the analysis.

6.6.3 To negate the bus frequency variation differences which exist across the AM, Inter-Peak and PM time periods, the average service frequency between 0700-1900 is presented. The results of the catchment analysis are outlined below.

Figure 38: East Renfrewshire Bus Stop Catchments

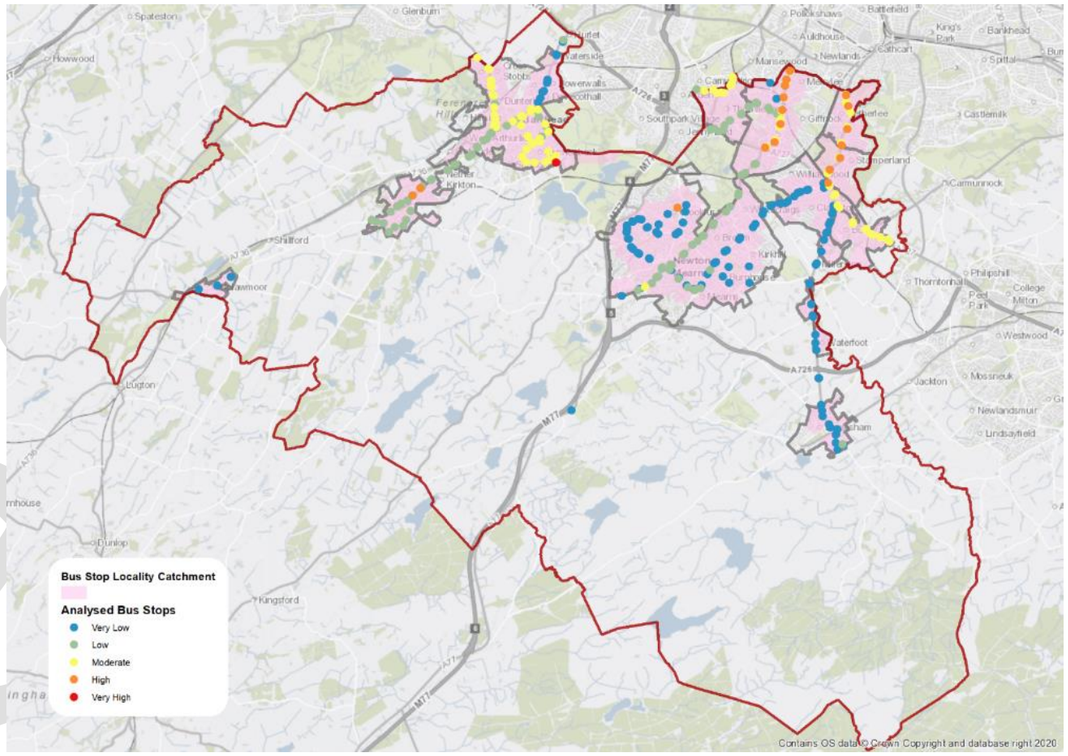


Table 13: East Renfrewshire Locality Bus Stop Population Catchments

Locality	Selected Locality Pop	Pop 400m of Bus Stop	% Pop within 400m of Bus Stop
Barrhead	17452	16634	95%
Busby	3093	2909	94%
Clarkston	9522	7632	80%
Eaglesham	3128	2361	75%
Giffnock	12169	8291	68%
Nielston	5363	5061	94%
Netherlee	4562	4335	95%
Newton Mearns	24262	21312	88%
Stamperland	3606	2488	69%
Thornliebank	4051	4051	100%
Uplawmoor	564	564	100%
Waterfoot	1280	1275	100%
Totals	**89052**	**76913**	**86%**

[3] Calculations focused upon the percentage of each locality being able to access the public transport network (as opposed to the total population of East Renfrewshire). As such, Locality populations may slightly differ from official statistics. Furthermore, 2011 Postcodes may not represent any new developments. Consequently, these areas are not represented within analysis

[4] Chartered Institute of Highways and Transportation (CIHT) Guidance states that the walking catchment of a bus stop is between 300m and 400m. The latter is traditionally regarded as a 'cut off point' on how far people would walk for a bus

6.6.4 Figure 38 and Table 13 outline how most of East Renfrewshire's Localities are within 400 metre walking distance of a bus stop, with only Giffnock and Stamperland having walking catchments lower than 70%.

6.6.5 It should be noted that most of these walking catchments are for bus stops with relatively low frequencies. Specifically, this is seen in Eaglesham, Waterfoot, Clarkston, north-east Barrhead, Uplawmoor and peripheral areas of Newton Mearns.

6.6.6 Conversely, Barrhead, Busby, Giffnock and Stamperland all have catchments which are either partially or fully serviced by high frequency corridors.

Train Stations

6.6.7 Guidance suggests the walking catchment of a train station to be 800m, with people willing to walk a greater distance reflecting the greater perceived quality and/or importance of rail services [35]. A radius of 800m was therefore applied to each of East Renfrewshire's current train stations. The results of this catchment analysis are presented in Figure 39 and Table 14.

Figure 39: East Renfrewshire Train Station Catchments

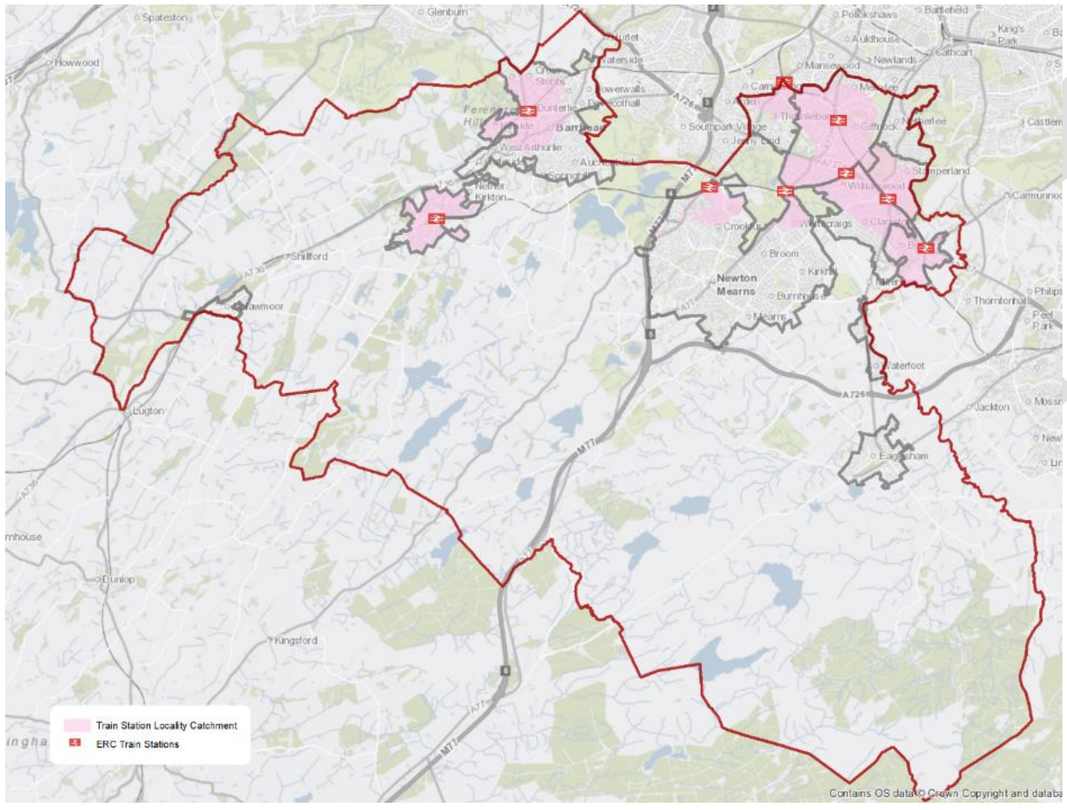


Table 14: East Renfrewshire Locality Train Station Population Catchments

Locality	Selected Locality Pop	Pop 800m of Train Station	% Pop within 800m of Train Station
Barrhead	17452	6036	35%
Busby	3093	2948	95%
Clarkston	9522	6793	71%
Eaglesham	3128	0	0%
Giffnock	12169	10234	84%
Nielston	5363	4543	85%
Netherlee	4562	0	0%
Newton Mearns	24262	1699	7%
Stamperland	3606	2503	69%
Thornliebank	4051	2371	59%
Uplawmoor	564	0	0%
Waterfoot	1280	0	0%
Totals	**89052**	**37127**	**42%**

6.6.8 Figure 39 and Table 14 highlight that only 42% of East Renfrewshire's Locality populations are within walking distance of a local train station, with Eaglesham, Netherlee[5], Uplawmoor and Waterfoot all being beyond walking distances of the area's train network.

6.6.9 Barrhead and Newton Mearns possess relatively low catchment levels, despite the stations being located within each of the localities. Conversely, those living in Busby, Giffnock and Neilston have relatively high catchments, whilst those in Clarkston, Stamperland and Thornliebank benefit also benefit from nearby rail provision.

6.6.10 Previous analysis undertaken in 2020 suggests that 100% of the population are within a reasonable cycle distance (5km) of a train station [31]. It may be assumed however that as distances increase the utility and practicality of journey decrease, although this can be influenced by a number of factors (as outlined in para 6.6.16).

Overview

6.6.11 Overall, there is a disparity between bus and train walking catchments within East Renfrewshire, with only 42% of the locality population being within walking distance of a train station – less than half the bus network catchment figure of 86%.

6.6.12 Figure 40 presents an overlap of each catchment. It shows that how those within Neilston, central Barrhead, northern pockets of Newton Mearns, central Giffnock, Stamperland, central Clarkston, northern Thornliebank and Busby are all within walking distances of East Renfrewshire's train network and frequent bus corridors. Those living within these areas possess high levels of accessibility to the transport network.

[5] Analysis excludes Muirend Rail Station, located in Glasgow City and within 800m walking distance of 'Bogton' (north Netherlee)

6.6.13 Although not being able to easily access the bus network, those in western Neilston, western / central Barrhead, north-western Newton Mearns and central Giffnock are all within walking distance of East Renfrewshire's frequent rail services. Likewise, those within south-east Barrhead and Netherlee are within walking distances of bus stops with frequent services.

6.6.14 Conversely, those within Uplawmoor, Eaglesham, Waterfoot, central Newton Mearns and northern Barrhead are only within walking distances of infrequent bus services, highlighting limited accessibility to public transport provision.

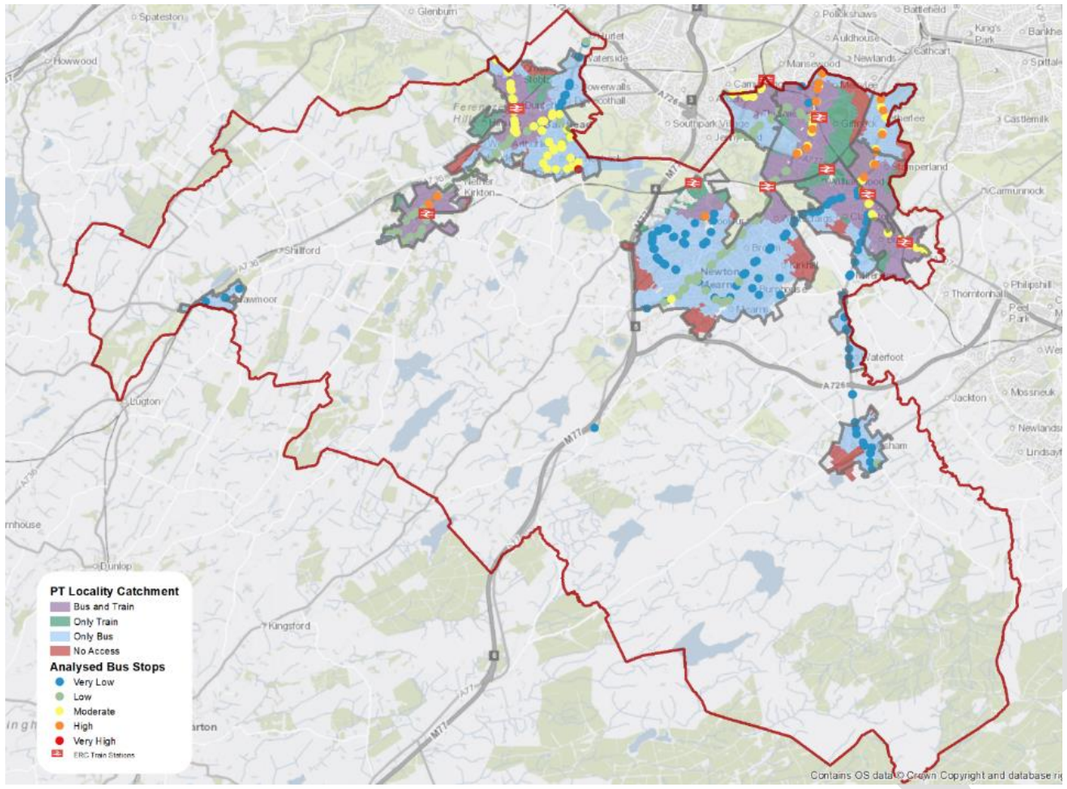
6.6.15 Pockets of central Eaglesham, southern / western Newton Mearns, western / northern Barrhead, eastern Giffnock, southern Netherlee, north-eastern Stamperland and central Clarkston are beyond walking catchments of both rail and bus. Public transport accessibility within these areas is therefore poor.

6.6.16 It should be noted that cycling as a mode of transport significantly increases public transport catchment and therefore accessibility to bus and train services. It is noted however that the propensity to walk or cycle is not only influenced by distance but also the quality of experience. For example people may be willing to walk or cycle further where their surroundings are more attractive, safe and stimulating [35].

6.7 Public Transport Interchange

6.7.1 The number of interchanges in any given public transport journey is often a decisive factor in people choosing to use bus or train, with numerous interchanges normally making journeys longer, more difficult to navigate, and ultimately unattractive.

Figure 40: Overview of East Renfrewshire Locality Public Transport Catchment



6.7.2 Analysis on the number of interchanges required for a public transport journey between various localities was undertaken to better understand internal connectivity within East Renfrewshire. Results of the analysis are shown in Figure 41. This provides an indication of how difficult (or otherwise) it is to make a journey by public transport between areas.

6.7.3 A lower number means fewer public transport legs, so fewer interchanges for a passenger. '0' indicates that only one public transport journey was required, and thus no interchanges were necessary to complete the journey. Locations coloured dark red cannot be accessed by public transport within 2 hours. Any journey longer than this is considered to be an unacceptable journey time and the journey is unlikely to made by public transport.

6.7.4 Figure 41 highlights Uplawmoor as facing particular barriers to public transport connectivity across the area – particularly in the AM period, where it struggles to connect to most of the eastern localities within East Renfrewshire. Other western areas such as Barrhead and Neilston also require a higher number of interchanges to eastern localities – again, particularly in the AM period.

6.7.5 Busby and Giffnock are the eastern localities which require the most interchanges to other urban centres within East Renfrewshire in the AM period.

6.7.6 Newton Mearns has the best public transport connectivity due to geographic location and interchange for a number of bus services.

6.7.7 It should be noted that public transport interchange analysis does not consider comparative journey times using different modes of transport, including 'first or last mile' access. This therefore does not consider factors such as convenience, flexibility, affordability and reliability as well general societal attitudes regarding the 'best' mode of transport for any particular journey.

Figure 41: Typical Number of Interchanges between Major Localities

AM Public Transport Legs

	Barrhead	Busby	Clarkston	Eaglesham	Giffnock	Neilston	Netherlee	Newton Mearns	Stamperland	Thornliebank	Uplawmoor	W
Barrhead		1	1	2	0	0	1	0	1	0	0	
Busby	1		0	0	0	1	0	0	0	0	0	
Clarkston	1	0		0	0	0	0	0	0	0	0	
Eaglesham	0	0	0		1	0	0	0	0	1	0	
Giffnock	0	0	0	1		0	0	0	0	0	0	
Neilston	0	1	0	1	1		0	0	0	0	0	
Netherlee	1	0	0	0	0	0		0	0	0	0	
Newton Mearns	0	0	0	0	0	0	0		0	0	0	
Stamperland	1	0	0	0	0	0	0	0		0	0	
Thornliebank	0	0	0	1	0	0	0	0	0		0	
Uplawmoor	0				0	0		0		0		
Waterfoot	0	0	0	0	1	0	0	0	0	0	0	

Inter-Peak Public Transport Legs

	Barrhead	Busby	Clarkston	Eaglesham	Giffnock	Neilston	Netherlee	Newton Mearns	Stamperland	Thornliebank	Uplawmoor	W
Barrhead		1	1	0	0	0	1	0	1	0	0	
Busby	1		0	0	0	1	0	0	0	0	1	
Clarkston	1	0		0	0	0	0	0	0	0	1	
Eaglesham	0	0	0		1	0	0	0	0	0	0	
Giffnock	0	0	0	1		1	0	0	0	0	0	
Neilston	0	1	0	0	0		0	0	0	0	0	
Netherlee	1	0	0	0	0	0		0	0	0	1	
Newton Mearns	0	0	0	0	0	0	0		0	0	0	
Stamperland	1	0	0	0	0	0	0	0		0	1	
Thornliebank	0	0	0	1	0	0	0	0	0		0	
Uplawmoor	0	2	1	0	0	0	1	0	1	0		
Waterfoot	0	0	0	0	1	0	0	0	0	0	0	

PM Public Transport Legs

	Barrhead	Busby	Clarkston	Eaglesham	Giffnock	Neilston	Netherlee	Newton Mearns	Stamperland	Thornliebank	Uplawmoor	W
Barrhead		1	1	0	0	0	1	0	1	0	0	
Busby	1		0	0	0	1	0	0	0	0	1	
Clarkston	1	0		0	0	0	0	0	0	0	1	
Eaglesham	0	0	0		1	0	0	0	0	0	0	
Giffnock	0	0	0	1		1	0	0	0	0	0	
Neilston	0	1	0	0	1		0	0	0	0	0	
Netherlee	1	0	0	0	0	0		0	0	0	1	
Newton Mearns	0	0	0	0	0	0	0		0	0	0	
Stamperland	1	0	0	0	0	0	0	0		0	1	
Thornliebank	0	0	0	1	0	0	0	0	0		0	
Uplawmoor	0	2	1	0	0	0	1	0	1	0		
Waterfoot	0	0	0	0	1	0	0	0	0	0	0	

KEY Internal Trip | Inacessible by public transport within 2 hours

Overview

6.7.8 The interchange analysis highlighted the lack of longitudinal connectivity across East Renfrewshire between the eastern and western areas. Analysis suggests Uplawmoor is a particularly isolated locality. Varying levels of public transport connectivity (especially during off-peak times when services may not be as frequent) reinforces car dependency for local journeys within the area, contrary to stated policy objectives.

6.7.9 Additional material considerations, such as convenience, attractiveness and affordability, will also influence whether people choose public transport.

6.7.10 Additional analysis of public transport cost connectivity is included within Chapter 8.

6.8 Summary

6.8.1 This chapter sought to understand issues within East Renfrewshire's relating to the public transport system.

6.8.2 This highlights that the local bus network deliver effective north-south routes to core urban populations but struggles to offer viable, frequent services to those living in outlying peripheral or rural areas. Within the east of East Renfrewshire frequent bus services are focused within the north of the authority serving Glasgow. In Barrhead, frequent services are focused along the B771 corridor towards Paisley.

6.8.3 Data on travel speeds suggest potential challenges with regards to reliability of travel times through the local authority area, with variable speeds observed along many key corridors depending on time of day, with AM bus journey times into Glasgow more disrupted than other trips.

6.8.4 Analysis suggests east-west local and regional bus service across East Renfrewshire is poor which in turn impacts connectivity between settlements, particularly links between Eastwood and Levern Valley areas of the authority.

6.8.5 Prior to COVID-19, there was growing demand for rail services within East Renfrewshire and associated capacity issues with local Park and Ride facilities. Future demand for rail and public transport provision more generally is therefore unclear; more information on this subject can be found in Section 9.4.

6.8.6 In terms of public transport accessibility, there is a disparity between bus and train walking catchments within East Renfrewshire, suggesting variable levels of public transport provision depending on geographical area. This analysis does not however consider broader issues such as convenience, affordability and reliability that may influences peoples transport choices.

7 Roads and Traffic Baseline

7.1 Introduction

7.1.1 The local road network and associated infrastructure represents a critical component of East Renfrewshire's transport network, connecting people and places with services and opportunities, as well as the conveyance of goods necessary for growth and wellbeing.

7.1.2 This chapter provides an overview of local roads assets and vehicle traffic trends within East Renfrewshire in order to ascertain their impact on travel behaviour, the local environment and wider urban development. In addition, analysis also considers parking provision and road safety as part of the wider roads and traffic landscape.

7.2 Road Network

7.2.1 East Renfrewshire's adopted road network comprises 484km carriageway, 706km footway/footpath, 130 bridges, 51 culverts, and 317,808m2 of verge.

7.2.2 ERC, as the Roads Authority, have a duty to manage and maintain the local road network (in accordance with the Roads (Scotland) Act 1984). This includes all aspects of road safety.

7.2.3 The local road network contains a series of Classified and Unclassified roads that broadly reflect different functions. Classified roads represent A, B and C-class routes, which are strategically and economically the most important carriers of road traffic. These include local primary and distributor roads and facilitate primarily a movement function.

7.2.4 Around 80% of the local road network is comprised of unclassified roads, including residential streets, which perform largely local functions such as connecting residential areas and enabling local access.

7.2.5 Two Principal routes within East Renfrewshire include the M77 motorway and A726 Glasgow Southern Orbital (replacing the former A77 and A727 trunk routes) as key strategic road links between Ayrshire, Lanarkshire and Glasgow. These are maintained in discrete sections by Amey and Connect on behalf of Transport Scotland as the Roads Authority. These cater for long distance traffic and are the main routes for freight, whilst also providing links to nearby centres of economic activity and other strategic routes

7.2.6 An overview of East Renfrewshire's strategic road network is presented in Figure 42 and summarised in Table 15.

7.2.7 The majority of East Renfrewshire's arterial road network is located towards the eastern side of the authority area and possess a greater number of interchanges connecting the local populace to the wider road network. Conversely, the western side of the M77 is limited to more linear routes which primarily facilitate direct movements through the Levern Valley / Barrhead side of the authority.

7.2.8 It is noted that there is a distinct lack of longitudinal orbital routes connecting populations centres either side of the M77, with the latter acting as a major barrier to east – west connectivity within the area.

7.2.9 This road structure heavily influences how people move within and beyond East Renfrewshire. It also has a role in dictating where and how future development occurs.

Figure 42: East Renfrewshire's Road Network – Principal and Distributor Roads

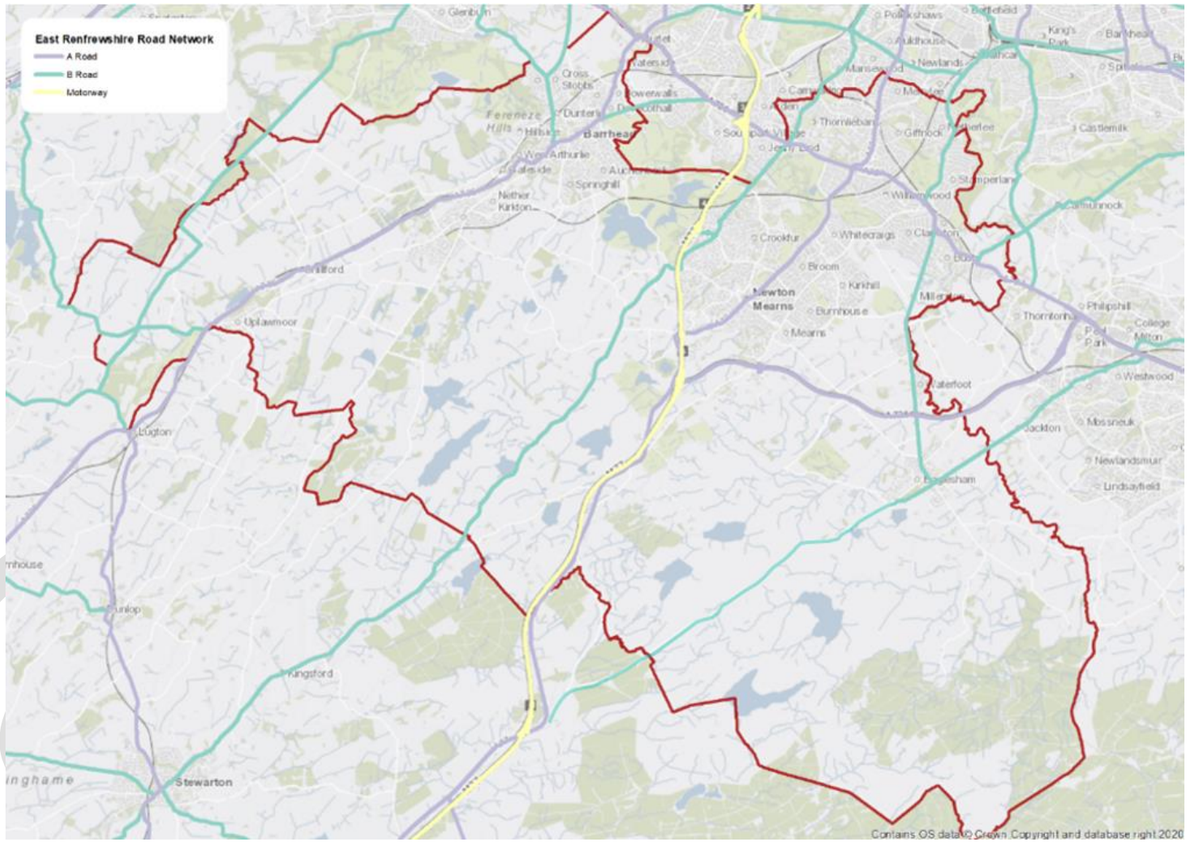


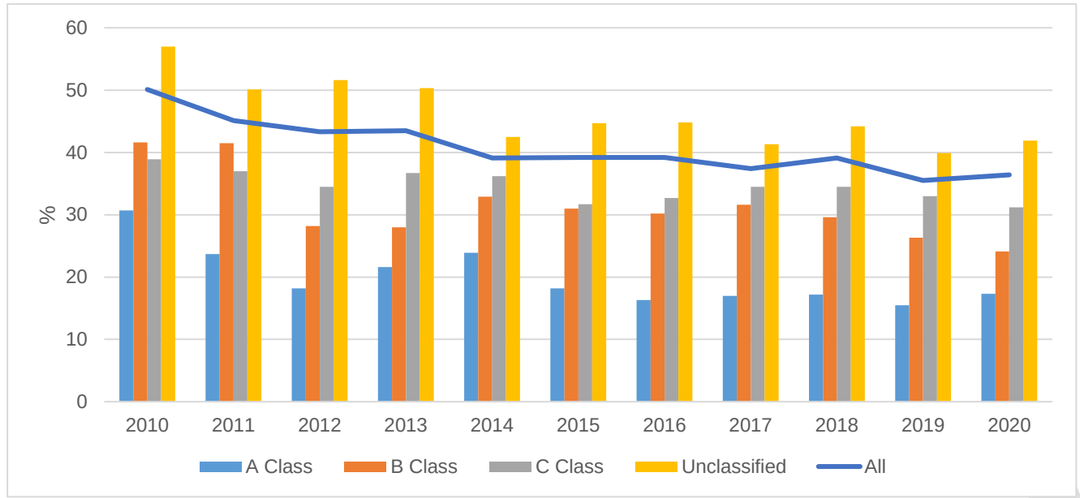
Table 15: East Renfrewshire's Arterial Road Network

Principal / Primary Roads	Distributor Roads
M77 Motorway - linking Glasgow to Kilmarnock via East Renfrewshire	B764 linking Eaglesham to East Kilbride
A726 Glasgow Southern Orbital linking the M77 to East Kilbride	B767 linking Eaglesham, Waterfoot and Busby to the A726 GSO and to Clarkston and its surrounding areas in the north
A736 linking Glasgow to Irvine via Barrhead	B771 linking Barrhead to Paisley via the A726
A727 linking Busby and Clarkston to Lanarkshire and Renfrewshire	B773 linking Barrhead to the A726 and the motorway network
A77 linking Glasgow to Kilmarnock via Newton Mearns and Giffnock, predominantly used for local access from East Renfrewshire to Glasgow	B769 linking Newton Mearns to Thornliebank and beyond.

7.3 Road Condition

7.3.1 The condition of ERC managed roads is assessed and reported nationally. Figure 43 below presents a summary of Road Condition Indicator figures for East Renfrewshire. This comprises the percentage of road network which should be considered for maintenance treatment and categorises the road condition into Red, Amber and Green bands. The RCI figure reported nationally includes both the red and amber categories. Since 2010 the overall road condition in East Renfrewshire has gradually improved.

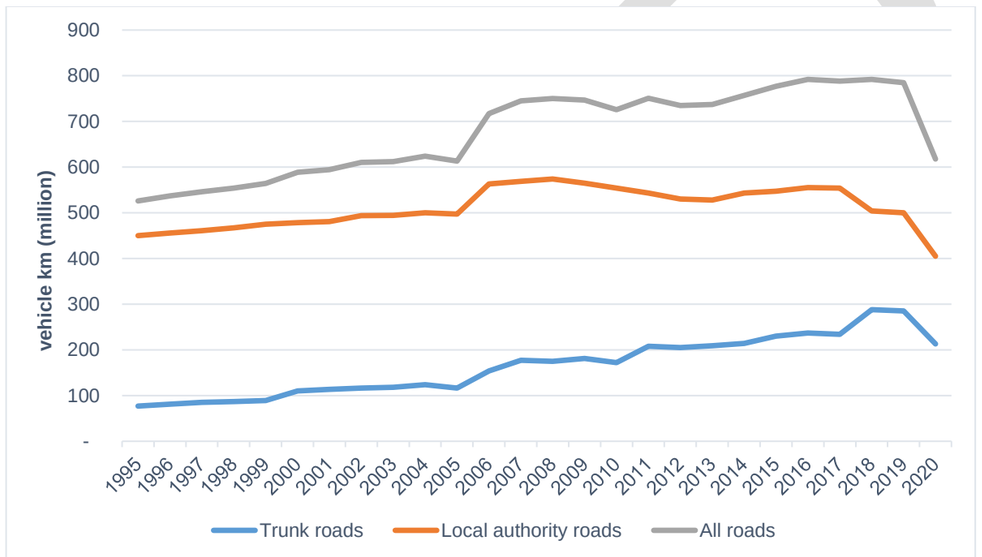
Figure 43: Roads Condition Indicator - % of roads that are red or amber in East Renfrewshire



7.4 Road Traffic

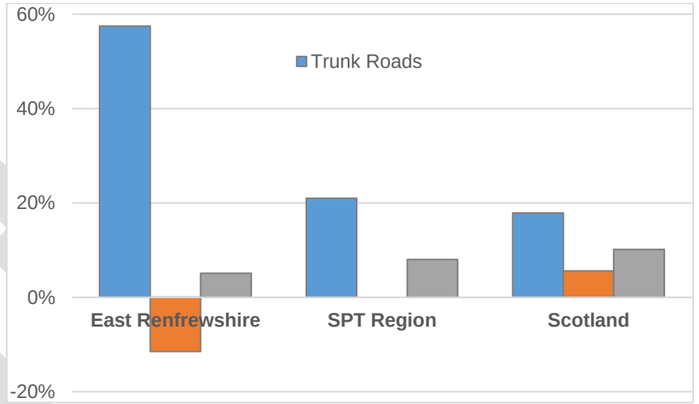
7.4.1 Road traffic data trends for East Renfrewshire and the region are presented in Figure 44.

Figure 44: Annual Traffic trends in East Renfrewshire [15]



7.4.2 Overall, year on year growth has continued, however, the sharp decrease in 2020 has resulted in traffic estimates that are lower than the 2010 levels. This decrease is due to the decline in traffic levels observed due to COVID-19 travel restrictions and changing travel behaviour during the first year of the pandemic (discussed in Section 9.4).

Figure 45: Percentage Change in Road Traffic 2009-2019 [15]



7.4.3 As per Figure 45 there has been a 5% increase in all traffic on East Renfrewshire roads between 2009-2019. This compares to an 8% increase in the SPT region and a 10% increase nationally.

7.4.4 Notably, East Renfrewshire is an outlier in terms of Trunk Road traffic, with its growth being 36% above the SPT average, but with a corresponding 12% reduction in local road traffic over the recent decade.

7.4.5 Based on national road traffic statistics, the largest traffic growth by vehicle category is Light Goods Vehicles which have increased 35% in Scotland between 2009-2019 and represents around 17% of all motor vehicle traffic in 2019. By comparison car traffic has grown 7% over the same period [15].

7.4.6 Traffic modelling undertaken before the COVID-19 pandemic suggests that distance travelled by car will continue to increase over the coming decades with above average road traffic growth predicted for Glasgow & the Clyde Valley.

7.4.7 Notwithstanding the above, and assuming no interventions beyond those already committed will be undertaken, the Transport Model for Scotland [36] suggests that between 2014 and 2037 the following may occur in the region:

- **Road Traffic (billion vehicle miles p.a.):** a 39% increase in the area, higher than the national growth of 37%
- **Road Congestion (PM Peak Delay seconds/mile**): 41% increase in the area, higher than 37% rise across Scotland
- **Bus Passenger mileage forecasts:** 11% decrease, higher than the national decline of 5%
- **Rail Passenger mileage forecasts**: 42% increase – the same as average rise across Scotland

7.4.8 It should be noted that modelling forecasts are not self-fulfilling and change over time in response to changes in travel behaviour and population growth. Furthermore, this does not consider impacts of the COVID-19 pandemic. Historically, there has been a long-term trend of people making fewer trips and travelling less distance per year (as outlined in section 9.4)

7.4.9 Trends and prediction suggests car usage will continue to increase within East Renfrewshire, although the accuracy of this and the extent to which this growth will be generated from increased car journey within the authority (compared to journeys emanating outwith the area) cannot be determined.

7.5 Parking

7.5.1 East Renfrewshire has possessed Decriminalised Parking Enforcement (DPE) powers since 2013. DPE powers provide the Council with control over parking enforcement including implementation of parking charges, Controlled Parking Zones (CPZs), Residential Parking Zones (RPZs) and Residential Parking Permit schemes. None of these mechanisms currently exist within the area.

7.5.2 Additionally, the council do not currently have any 'Pay & Display' parking charges in force

7.5.3 Between 2017/18 and 2019/20, the number of Penalty Charge Notices issued within East Renfrewshire fell from 5,176 to 3,165 – a drop of 30% (it should be noted that data for 2020/21 was heavily affected by COVID-19 and has thus been excluded).

7.5.4 Government guidance for local authorities seeking to acquire DPE powers is that the system should insofar as possible be self-financing. In the last two years of available data (2019-2020 & 2020-2021), ERC have a DPE deficit of £87,224 and £138,672. This presents a budgetary issue, as any deficit accrued by a local authority as a result of the authority's DPE operation must be made good out of general funds.

7.5.5 Consequently, budgetary deficiencies mean that transport interventions may be unable to go ahead, limiting the Council's ability to deliver, sustain or improve local transport provision. As such, the LTS may consider mechanisms to improve DPE financing and how this may best to support existing and future expenditures.

Supply

7.5.6 The fragmented nature of parking provision means that it is sometimes difficult to ascertain the level of parking provision within an area, especially on-street parking. Consequently, limited data is currently available for East Renfrewshire.

7.5.7 Available information on East Renfrewshire's off-street parking according to locality is presented in Table 16 and presented in order of number of parking spaces per person.

7.5.8 The categories of parking include school parking (23%), Council – other (21%), Council – Roads & Transportation operated (18%), Private – shopping centre (28%), and Private – other (18%).

Table 16: East Renfrewshire Off-Street Parking Supply

Locality	Selected Locality Pop	Number of off-street parking spaces	Number of off-street parking spaces per person
Thornliebank	4051	545	0.135
Giffnock	12169	1590	0.131
Newton Mearns	24262	2810	0.116
Clarkston	9522	980	0.103
Barrhead	17452	1378	0.079
Uplawmoor	564	37	0.066
Neilston	5363	218	0.041
Eaglesham	3128	80	0.026
Netherlee	4562	92	0.020
Busby	3093	42	0.014
Stamperland	3606	No Data	No Data
Waterfoot	1280	No Data	No Data

7.5.9 Table 16 highlights that Newton Mearns has the highest overall number of off-street parking spaces. This can be attributed to the large proportion of Private – shopping centre (39%) and Private – other (29%) spaces within the area (a total of 1918 spaces). Barrhead also has a high number of off-street spaces, although their split is much more evenly spread across the various categories.

7.5.10 Thornliebank and Giffnock have the highest number of off-street parking spaces per person, indicating good levels of parking provision within those areas. Alternatively, Nethererlee and Busby have more limited off-street parking provision, indicating that these areas may be more vulnerable to the negative consequences of high parking demand and associated pressures (e.g. obstructive parking within congested urban areas).

7.5.11 Table 12 outlines generally high occupancy rates at all East Renfrewshire's train Park & Ride facilities. Although data was collected before COVID-19, it highlights historical demand for Park & Ride facilities within the area.

7.5.12 There are currently no bus Park & Ride facilities within East Renfrewshire.

7.5.13 Available parking data for Clarkston, Giffnock, Newton Mearns and Thornliebank suggests the highest on-street occupancy rates are located nearby business premises. This corresponds with a demand for various services as well as perceptions regarding lack of parking availability. Although pressures on limited on street parking are evident in areas of high demand, there is generally a sufficient parking supply in the area overall to meet baseline demand, albeit a short distance from intended destination(s).

7.5.14 Notwithstanding, it is acknowledged that parking data is limited, particularly with regard to local travel patterns. It is therefore difficult to ascertain the current parking landscape within East Renfrewshire and potential future policy interventions relating to parking and associated infrastructure (outlined in Section 9.5).

Blue Badge Holders

7.5.15 There are 5032 blue badge holders in East Renfrewshire (5.6% of the population). In 2020, the number of disabled persons' parking places designated by ERC was 218. Available data suggests 417 off-street disabled persons parking (c.5% of off-street supply). The similarity between the number of blue badge holders and off-street blue badge spaces suggests a reasonable provision for blue badge holders. Although it would be reasonable to assume the proportionate number of blue badge holders will increase as the population ages (as discussed in Section 3.3.).

7.6 Electric Vehicle Charging Infrastructure

7.6.1 As outlines in Section 2.2, all new petrol and diesel cars and vans will be phased out by 2030. As such, the creation of a robust EV Charging network is vital to help realise this goal. Table 17 outlines the existing charging infrastructure within East Renfrewshire.

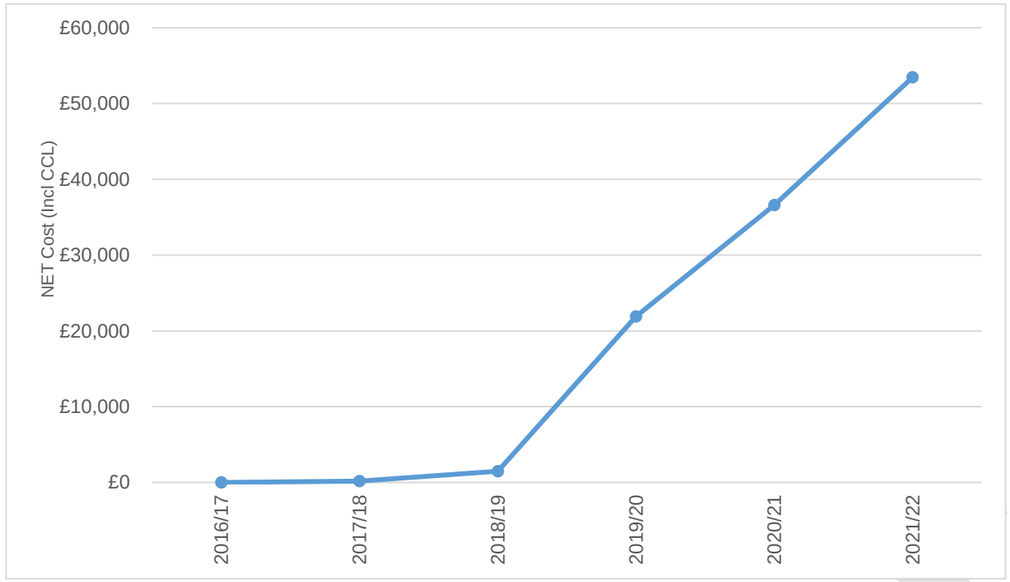
Table 17: Overview of East Renfrewshire Charging Network

Type of Charger		
<7kW Slow Chargers	**<22kW Fast Chargers**	**>43kW Rapid Chargers**
• 1 slow charger at Mary Young Place car park. • Kingston Road Park & Ride site charger vandalised. • 4 slow charging sites exist, run by private operators (ASDA, The Avenue, NHS, ScotRail)	• 4 ERC fast chargers, including at Eastwood Park. • Merryvale Place car park, Gilmour Street, The Foundry and Neilston Sports Centre. • Only The Foundry fast charger reported to be operational. • 2 fast chargers also at Whitelee Windfarm (SPEN).	• 4 rapid chargers around ERC, two out of service. • Only Broomburn Shops and Clarkston Road car parks operational. • Additional 2 rapid chargers to be installed on Busby Road. • 2 InstaVolt chargers at Greenlaw Shopping Village

7.6.2 As Table 17 demonstrates, East Renfrewshire EV charging network hampered by operational issues such as damage and faulty equipment. This represents an ongoing revenue cost to ERC.

7.6.3 With the increase in public EV charge points – from 0 sites in 2016 to 11 in 2021 – the cost of electricity usage incurred by ERC for subsidised charging has increased accordingly. This was determined to be £53,456 for the year 2020/21, as per Figure 46. Figures for subsequent years will increase with rising usage and energy costs.

Figure 46: EV Charge Point - Electricity Costs



7.6.4 East Renfrewshire commissioned a report to investigate how to accelerate sustainable growth of the local EV network. The report provided the following recommendations:

Table 18: East Renfrewshire EV Network Recommendations

Recommendation	Further Information
Clarify roles and council responsibilities	Establishing a key contact list and ascertaining which team is responsible for relevant tasks
Establish clear process on procuring new EV charging infrastructure	Creating a checklist to enable further development and deployment of infrastructure
Unify maintenance under a single scheme	Creating a direct maintenance contact to reduce downtime and increase (potential) revenue
Develop an interim policy and strategy to guide future developments	Clarification for council investments and planning policies
Implement a tariff structure to secure revenue	Creates an additional council revenue stream and encourages private sector infrastructure investment
Consider other ownership and operation models	Follow information outlined in draft EV strategy and other guidance from Transport Scotland / Scottish Future Trust

7.6.5 Some of the recommendations outlined in Table 18 mirror those discussed in the Draft Vision for Scotland's Public Electric Vehicle Charging Network. Subsequently, this highlights the need for ERC to develop new models of EV charging infrastructure development. Developing – and subsequently implementing – these will provide the necessary charging network to promote EV ownership within the area.

7.6.6 It should be stressed that a mass transition to EV ownership will not be an all-encompassing solution to East Renfrewshire's transport challenges or net-zero ambitions. More information on this can be found in Section 9.3.

7.7 Road Safety

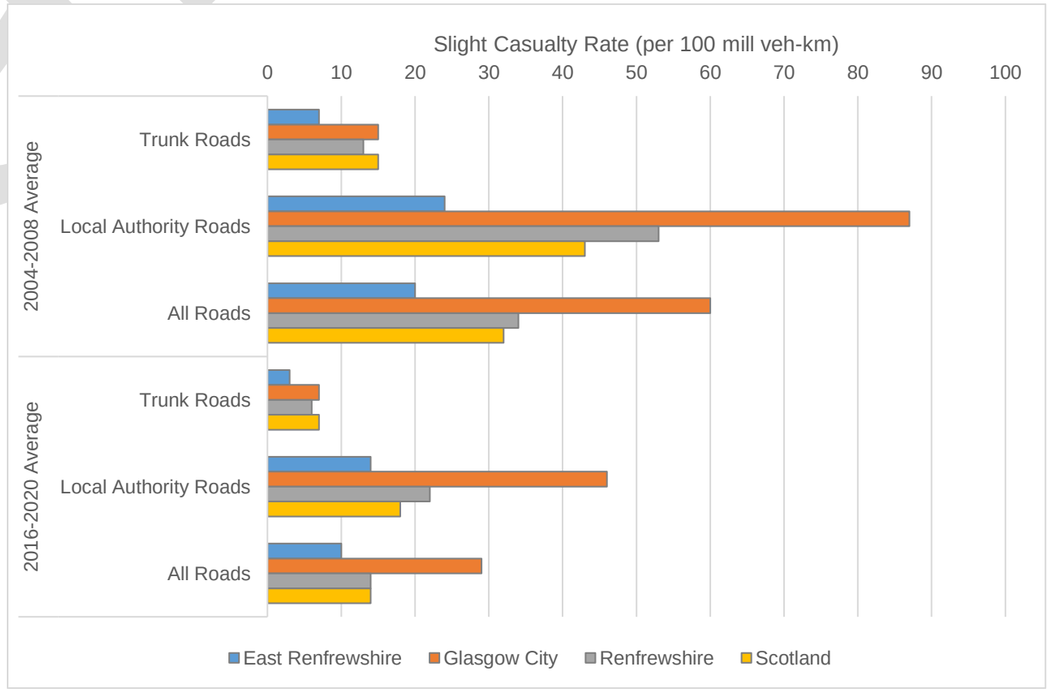
7.7.1 A safe transport network is a vital component of any transport system. In addition to supporting measures to prevent road users from being killed or injured, perceived safety affects where and how people travel.

Road Casualties

7.7.2 Between 2016 and 2020, two people lost their lives, with a further 85 and 371 slightly and seriously injured respectively [37].

7.7.3 For context, Figure 47 presents the 'slight' casualty rate in terms of kilometres travelled for East Renfrewshire, two neighbouring authority areas and Scotland as a whole. This data represents a proxy for road casualty rates for comparison purposes [38].

Figure 47: Comparative Slight Casualty Rates



7.7.4 As Figure 47 shows, East Renfrewshire has a relatively low slight casualty rate when compared to neighbouring authorities and Scotland as a whole. Accident rates on All Roads are 40% lower than the national average (and 290% lower than Glasgow City), highlighting East Renfrewshire's roads as comparatively safe. It should be noted that that statistics do not take into account differences among more vulnerable road users and factors such as population size and activity across different socio-economic groups.

7.7.5 Accident rates have decreased at a slightly lower rate than the rest of the respective regions between the two time periods. For example, On All Roads, East Renfrewshire possesses the lowest decrease of 50%, (with Renfrewshire possessing the highest figure of 59%). This indicates historically low crash rates in the East Renfrewshire area.

Crash Locations

7.7.6 Ascertaining where accidents occur is vital addressing current / future safety issues. Table 19 details the make-up of East Renfrewshire and neighbouring authorities' accident rates. Only relevant local authorities have been presented.

Table 19: reported crash statistics 2020: casualty residence vs crash location [38]

		Location of crash		
		East Renfrewshire	Glasgow City	Renfrewshire
Casualty Residence	East Renfrewshire	43.1%	3.4%	1.6%
	Glasgow City	33.3%	75.3%	10.4%
	Renfrewshire	11.8%	2.8%	72.8%
Total Number of Crashes		**51**	**680**	**125**

7.7.7 Table 19 shows that unlike neighbouring authorities, casualties within East Renfrewshire do not overwhelmingly originate from the local authority area. Instead, East Renfrewshire shares a sizeable proportion of recorded road crash incidents with people from Glasgow City, and to a lesser extent, Renfrewshire.

7.7.8 These trends reflect the transient nature of East Renfrewshire's traffic / travel movements. One possibility is that East Renfrewshire's population behaves in a safer manner on the road network than those outside of the area. Alternatively, the local populace may have better knowledge of the area's road network. The data may also be skewed by the comparatively low number of accidents which occurred in East Renfrewshire at the time.

7.7.9 Data analysis does not show where crashes occur, the frequency of these and what road users where involved. Determining these factors will require additional area-specific analysis.

7.8 Summary

7.8.1 Analysis suggests that the condition of the local road network is improving, however significant extents of the network require maintenance and repair.

7.8.2 Road traffic within East Renfrewshire is increasing which, combined with high car mode share, suggests a high degree of car dependency within the population. Notwithstanding, traffic trends on local authority roads over the previous two decades has remained largely constant, with more recent data suggesting a reduction in local road traffic is offset by a significant increase in trunk road traffic.

7.8.3 Analysis of parking data suggests problems in terms of DPE operation and financing. This, together with issues developing the local EV charging network, suggests a need to adopt different models and approaches to ensure sustainability of operations.

7.8.4 Off street parking data suggests parking supply varies across the authority. The lack of supporting data for both on street and off street parking makes it difficult to ascertain the current supply / demand situation and therefore any changes to future management requirements. Notwithstanding, information gathered from previous studies suggests high parking demands at local businesses and train stations with associated pressures. This is despite sufficient parking supply in the area overall.

7.8.5 Although road safety is generally considered good compared to adjoining local authority areas, the future LTS should ensure ongoing improvement in order to fulfil longer term road safety goals, namely that no one is seriously injured or killed on our roads by 2050. Additional analysis is likely to be required to understand where crashes occur and how this may be mitigated in order to deliver wider policy objectives, such as reduce car vehicle km by 20% by 2030.

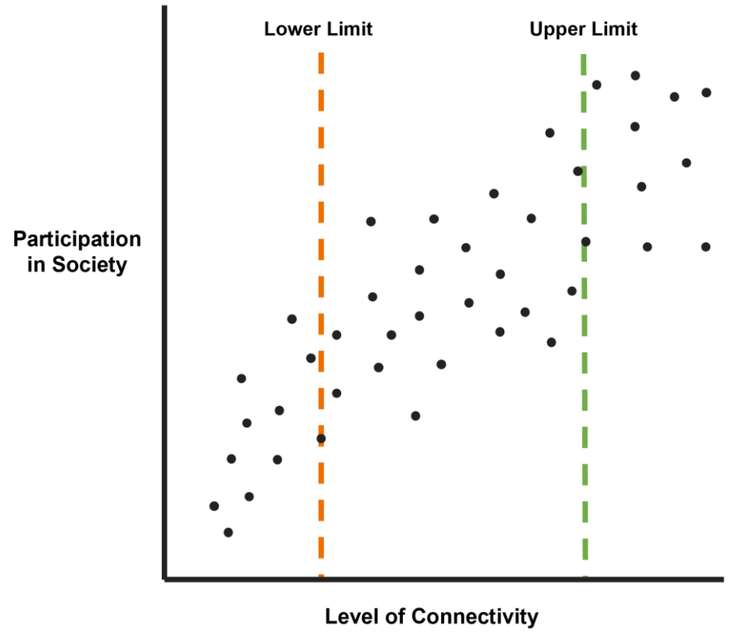
8 Transport Equity

8.1 Introduction

8.1.1 Transport equity is where a mode of travel is safe, secure, and improves mobility and accessibility fairly, enabling all people to participate fully in socio-economic life. This recognises different people have different needs, particularly those belonging to more disadvantaged groups.

8.1.2 Equity is a principle or concept that is often considered synonymous with fairness. Households and individuals who struggle or are unable to make the journeys that they need can lead to social exclusion from employment, healthcare, education, and amenities. Therefore, the relationship between a person's level of connectivity and their quality of life is inherently linked.

Figure 48: Transport Connectivity & Participation in Society

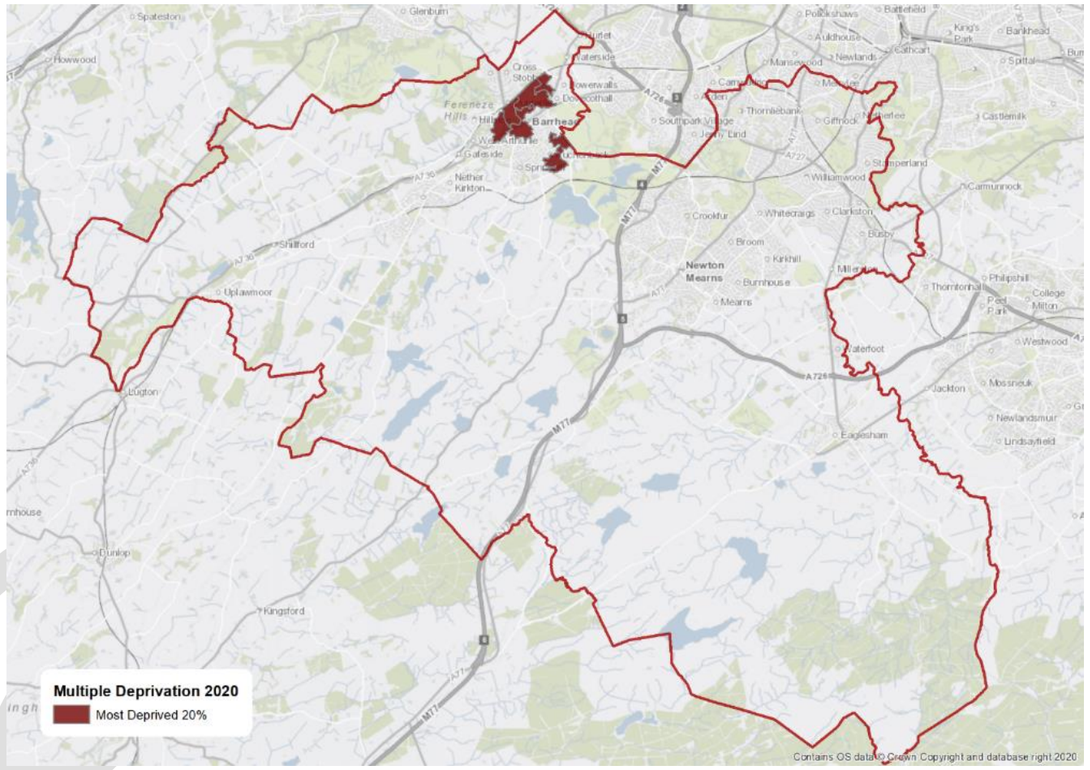


Adapted from Martens, 2017

8.1.3 Social inequality is an issue within East Renfrewshire, Barrhead possesses some of the most deprived areas in Scotland (see Figure 49). Notwithstanding, other areas of East Renfrewshire contain pockets of deprivation. In addition, a number of more affluent communities perform poorly against 'geographic access domain', which is a metric intended to capture the financial cost, time and inconvenience of having to travel to access basic services.

8.1.4 With transport acting as both a major barrier and solution to social inequalities, this chapter seeks to understand how East Renfrewshire's transport system helps or otherwise hinders inequalities within the area.

Figure 49: Multiple Deprivation Data (SIMD Scotland, 2021)



8.2 Accessibility

8.2.1 There can be many barriers to elderly, disabled and socially / economically deprived sections of the population accessing the transport system. Various pieces of legislation (e.g. Equality Act 2010) aim to ensure that plans and policies do not adversely affect people with protected characteristics. For transport, this aim translates to ensuring that all people enjoy equal access to opportunities.

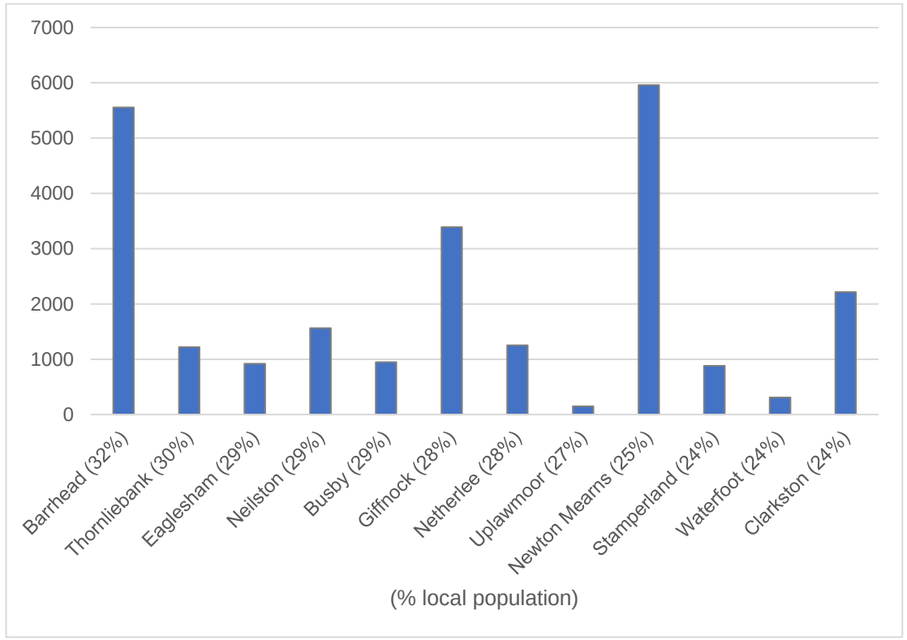
8.2.2 The below analysis considers how elderly and / or disabled people access East Renfrewshire's transport system. Sections 8.4 & 8.5 provide detailed analysis on the relationship between socio-economic status and public transport connectivity.

Disability and health

8.2.3 Based on 2011 Census figures, 27.3% of East Renfrewshire's adult population live with a limiting long-term health problem or disability, although this is lower than the Scottish average of 29.9% [9]. These figures differ from official 2019 statistics which suggest that 19.1% of adults in the area live with some sort of limiting long-term physical or mental health condition / illness, which compares to 35% of adults in Scotland [40]. Notwithstanding, these figure still represents a considerable portion of East Renfrewshire's population requiring access to the local transport network.

8.2.4 A 2019 survey of East Renfrewshire's disadvantaged residents (i.e., elderly, disabled, those suffering from long term health conditions and people on low incomes) highlighted that 44% of respondents were in some way limited in their ability to do one or more regular activities as a result of transport [39]. This outlines barriers to moving around and challenges surrounding a future transport system that caters for the most disadvantaged within society

Figure 50: Locality breakdown of people with one or more health conditions [41]



8.2.5 Figure 50 highlights Barrhead as the locality with the highest portion of those with at least one long-term health condition, with Thornliebank second and Eaglesham, Neilston and Busby joint third.

Age

8.2.6 28% of East Renfrewshire's population possess a concessionary fare pass (a pass issued to people over 60 and disabled people which entitles them free access to public transport services). This is 1% higher than the Scottish average. Although this figure mirrors national data, 93% of East Renfrewshire's concessionary fare pass holders are over the age of 60 (the 4th highest in Scotland).

Overview

8.2.7 The above analysis suggests that East Renfrewshire's elderly and disabled population have experienced barriers when accessing the transport system, with the area's growing elderly population posing problems for future service provision. Consequently, the LTS should consider how future transport provision will cater for an ageing population those with long-term health conditions and ensure that these sections of the local population have access to the transport system.

8.2.8 A common theme from residents with mobility issue was 'first and last mile' problem with public transport [39]. That is, the issues that exist for people getting to a bus stop or train station and how they manage the final leg of their journey after getting off public transport. This is due to mobility impairments limited their ability to walk to their nearest bus or train station or those who live in rural areas too far away from transport links for these to be feasible

8.2.9 Notwithstanding, analysis did not outline what specific barriers or challenges these sections of the community faced and what solutions might be. As such further research would be required to investigate this.

8.3 Community Transport

8.3.1 Traditional forms of public and private transport are sometimes unable to provide suitable services to vulnerable, rural, and hard to reach groups. Community Transport often plays a vital role in plugging these gaps.

8.3.2 Community Transport normally comprises of a variety of public, private, statutory, and third sector services. Based on 2020 analysis, Table 20 outlines Community Transport assets and how these operate within the area. It should be noted these findings are only preliminary and thus subject to change.

Table 20: Community Transport Assets within East Renfrewshire (indicative)

Sector	Provision	Description
Public	**MyBus (SPT)**	• MyBus is a bookable bus service offering door-to-door transport that operates in parts of East Renfrewshire. MyBus is only available for elderly and vulnerable people and those in rural areas.
Private	**Taxi**	• There are a number of taxi and private hire companies active in East Renfrewshire. This includes online app-based companies, such as Uber.
	Driving Miss Daisy	• Driving Miss Daisy is a private sector franchise that delivers a social transport service: a combination of transport and companionship. Driving Miss Daisy delivers the service that the client needs. • This can include going into people's homes, helping the client to get ready, attending shopping or leisure activities with the client, attending medical appointment, etc. Clients, or in most cases, their family, pay for the service.
Third Sector	**Various Organisations**	• Within East Renfrewshire there are at least twelve third sector organisations with their own transport who provide services to vulnerable and hard to reach groups. • **Although more search is required to determine the types and capacities of vehicles held by third sector organisations, their availability (downtime), the number and qualifications of drivers in the area and, crucially, organisations' willingness to pool these resources.)**
	Volunteers	• Community transport generally relies on volunteers to deliver (part of) its services. Voluntary Action East Renfrewshire (VAER) operates the volunteer centre in the local authority. • VAER acts as the intermediary that brings together volunteers and organisations that require volunteers. It is in the process of launching an online search and apply system for volunteer vacancies. Currently there are 4,729 volunteers registered with VAER.
Statutory Sector Assets	**Vehicles**	• The statutory sector in East Renfrewshire has underused assets and capacity that can support the development of community transport. ERC reported it owns ten minibuses (<16 seaters) and five buses (>16 seaters). The Council employs 12 drivers and 12 escorts to operate the vehicles. • These vehicles are used by the Isobel Mair school for special needs, Social Work and the Health and Social Care Partnership. They are typically used twice a day, in the morning to transport clients to day centres, services and activities and at the end of the afternoon to take them back home.

8.3.3 The study also undertook interviews with a variety of individuals from Third Sector and Key Stakeholder organisations. Table 21 outlines the most pertinent conclusions

Table 21: Community Transport Report Findings [39]

Individual	Conclusions
Third Sector Organisation	• The third sector in East Renfrewshire is diverse in terms of the number of beneficiaries organisations provide transport for, the localities in which they live and the demographic groups they belong to. • On the whole the sector relies heavily on private hire vehicles, taxis or staff/volunteers own vehicles to provide transport for its beneficiaries. • The third sector faces a wide range of challenges, both now and in the future, in maintaining current levels of transport provision, and most predict demand to increase in the coming years.
Key Stakeholders	• Stakeholders were generally in agreement that there is a significant and growing need for transport among service users, particularly for certain key groups such as older people and people with a disability. • In some areas, particularly relating to health and social care, there is clarity about what those needs are.

8.3.4 The above analysis suggests a growing need for Community Transport services within East Renfrewshire. It also illustrates how the governance and operation of Community Transport within East Renfrewshire is often fragmented, leading to low asset utilisation and an overall lack of clarity regarding roles and responsibilities.

8.3.5 To help alleviate these problems the report outlines four possible scenarios to develop Community Transport within East Renfrewshire which integrates with the existing public transport network – and most importantly – does not undermine existing social transport provision. Such scenarios included:

- **Do Nothing**: Benchmark to assess other options against
- **Loose Network:** Consists of community transport providers and other key stakeholders (e.g. ERC, SPT, HSCP) meeting on a regularly basis (e.g. quarterly) to discuss developments, share information and learn from one another through the development of a Community Transport Network.
- **Public Social Partnership:** Involves strategic partnering arrangement of public sector commissioners, third sector service providers and service users (or their representatives) with the goal of delivering better outcomes for citizens, based on explicit feedback from those who use public services.
- **Social Enterprise:** The Council could approach an existing social enterprise in East Renfrewshire / establish a new community transport social enterprise to deliver community transport.

8.4 Comparative Public Transport Costs in East Renfrewshire

8.4.1 The cost and affordability of public transport is often a barrier to people being able to access the transport system. Consequently, a review of the pricing policies for each of the main operators within the ERC area was undertaken to examine any discrepancies in respect of 'being fair with fares'.

8.4.2 The tables below highlight the comparative costs for travel by East Renfrewshire residents to Glasgow based on 4 weekly tickets for bus and monthly tickets for rail. The check was made against Scotrail standard adult season ticket prices as of 17th March 2020. These passes allow unlimited travel between two stations (or anywhere on the line) for the month they are issued.

Table 22: Monthly Rail Tickets to Glasgow (ScotRail, 2020)

Area	Monthly rail
Thornliebank	£67.60
Giffnock	£70.30
Clarkston	£81.10
Busby	£85.70
Barrhead	£88.40
Neilston	£100.30
Eaglesham	N/A
Netherlee	N/A
Newton Mearns	N/A
Stamperland	N/A
Uplawmoor	N/A
Waterfoot	N/A

8.4.3 There is a direct link between distance travelled (to and from Glasgow) and the cost of a 4-weekly pass. This results in the settlements within the Levern Valley paying more for their train tickets, with Neilston residents paying £32.70 more for a 4 weekly train pass than Thornliebank residents. Although this is due to distance-based calculation common across the rail industry, the fare difference for the same type of journey is notable, which in turn influence travel behaviours.

8.4.4 Bus fares were also analysed by considering 4-weekly tickets being offered by the two main bus operators in the area – McGills & FirstBus.

Table 23: Weekly Bus Tickets (McGills, FirstBus, 2019)

Operator	Locality	4-weekly Ticket
FirstBus	East of M77	£52.00
McGills	West of M77	£64.80

8.4.5 Bus operators in the west of the authority charge an additional £12.80 for a similar service provided in the east. This again is largely due to distance from more peripheral areas to Glasgow City, but highlights inequalities faced by residents in more deprived areas, with longer travel distances and higher fares potentially reinforcing existing inequalities.

8.5 Connectivity Review

8.5.1 A key component of the LTS is to understand the current levels of connectivity within an area to key destinations and services in the area, in addition to key attractors and trip generators outwith the study area. TRACC accessibility software was used to calculate the levels of connectivity that exists for residents of East Renfrewshire. The connectivity audit focuses on three specific areas:

- Frequency of services at bus stops across East Renfrewshire;
- General travel time analysis; and
- Connectivity to key services for residents correlated against socio-economic indicators.

8.5.2 The software calculates travel times by public transport between locations including the walked element of the journey, using up-to-date public transport timetable information. The analysis has included investigation of levels of connectivity across the entire day, disaggregated into core time periods:

- AM Peak, 0700-0959 hrs;
- Inter Peak, 1000-1559 hrs;
- PM Peak, 1600-1859 hrs; and
- Off Peak, 1900-0000 hrs

8.5.3 It should be noted that at the time of these calculations, TRACC did not limit the number of interchanges that could be made, (i.e. the number of transfers between services), and purely only presented the best travel time to complete all possible connections within specific time windows.

Understanding Socio-Economics and Connectivity

8.5.4 Analysis was undertaken using a bespoke Connectivity Audit Tool**.** This approach provides evidence, illustrating the relationships between levels of connectivity and varying indicators of social inequalities. The tool integrates travel time information with socio-economic indicators to map correlations between travel times to key destinations and societal issues. The customised tool integrates data directly from TRACC, SIMD 2016[6], in addition to other datasets, and involves a weighted attractor for destinations.

8.5.5 The analysis is undertaken at the postcode level, with postcodes then placed into one of three tiers depending on the level of correlation. These three tiers consist of:

- **Tier 1**: Postcodes in this tier are those that demonstrate poor scores against the socio-economic indicators combined with displaying poor levels of connectivity to specific key services. In specific, they register scores of social deprivation below the local authority median and connectivity scores equal to or less than the local authority median travel times.
- **Tier 2**: Postcodes in this tier display scores on trend to the local authority weighted average in terms of performance against the socio-economic indicators and travel times slightly above the local authority median travel times.
- **Tier 3**: Postcodes in this tier either display scores above the local authority weighted average or show no correlation between the respective scores of the socio-economic indicators and travel times. For example, high levels of educational attainment but low levels of connectivity to educational institutions.

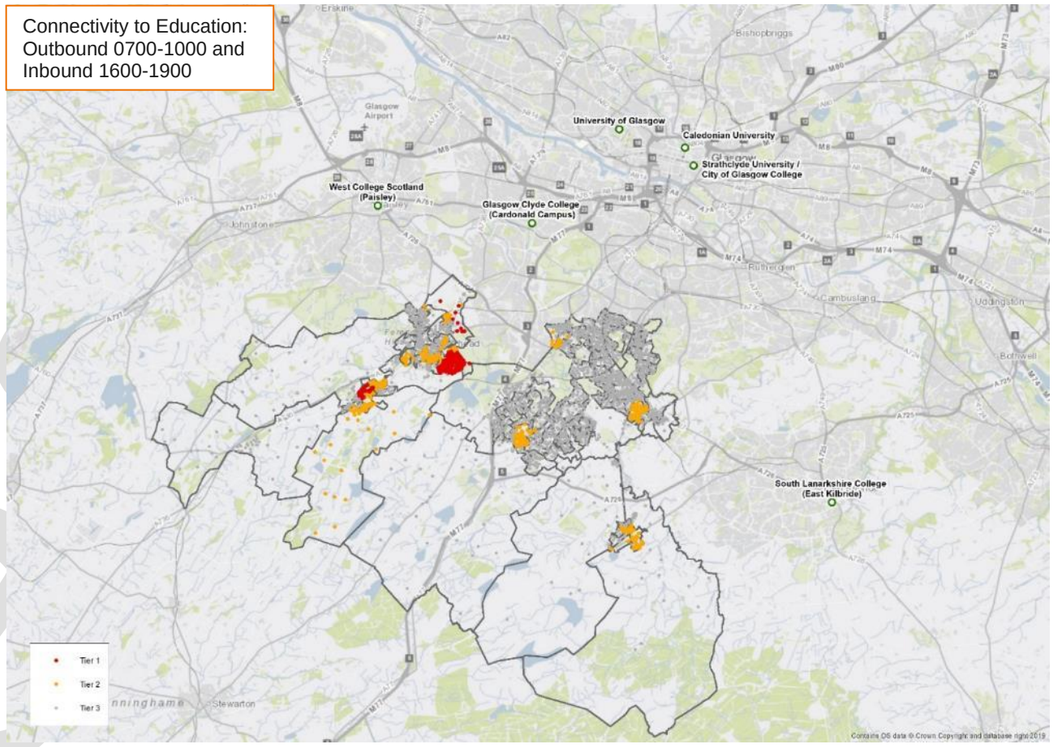
8.5.6 Using this tiered approach provides the opportunity to identify those areas which are in most need of further focus and potential intervention to help reduce the level of deprivation, i.e. tier 1 postcodes. The tiered approach also ensures that no area is excluded from the analysis, but merely provides a targeted approach towards identifying problems and development objectives for the LTS.

8.5.7 Although this analysis has been undertaken looking at each destination types in terms of use, it is important to note, that many of these destinations are multi-purpose, for example, Hospitals are a place for employment, health appointments and visiting. Therefore, this note should be considered when studying the analysis in the following sections.

Connectivity to Education

8.5.8 With Education Services / SPT arranging transport for primary and secondary pupils, this analysis has focussed on tertiary education facilities, such as University of Strathclyde, City of Glasgow College etc. Two maps have been produced for the analysis, one focusing on making a trip during the Peak Period, in this case leaving in the AM peak and returning in the PM peak. The second map displays similar information but focuses on making a trip both outbound and inbound during the Inter Peak period. The analysis involved journey times from TRACC, educational attainment levels from SIMD 2016 and using a weighted attractor factor of number of student places at each of the six tertiary educational facilities.

Figure 51: Connectivity to Education, Peak Return



8.5.9 The Peak map indicates that approximately 4,600 residents currently live in tier 1 postcode locations in Barrhead and Neilston. This equates to approximately 5% of the population of East Renfrewshire at the 2011 census. These postcodes are indicative of those who have low levels of educational attainment and corresponding low levels of connectivity, compared to other locations within East Renfrewshire.

8.5.10 A further 10,700 residents (12% at time of 2011 census) live within tier 2 postcode locations. These locations although spread across the local authority are concentrated in certain pockets. These areas are Barrhead, Neilston, Newton Mearns (Mearns Village), Eaglesham, the western section of Busby and the southern extent of Thornliebank.

[6] It should be noted that this analysis took place before the release of 2020 SIMD data.

Figure 52: Connectivity to Education, Inter Peak Return

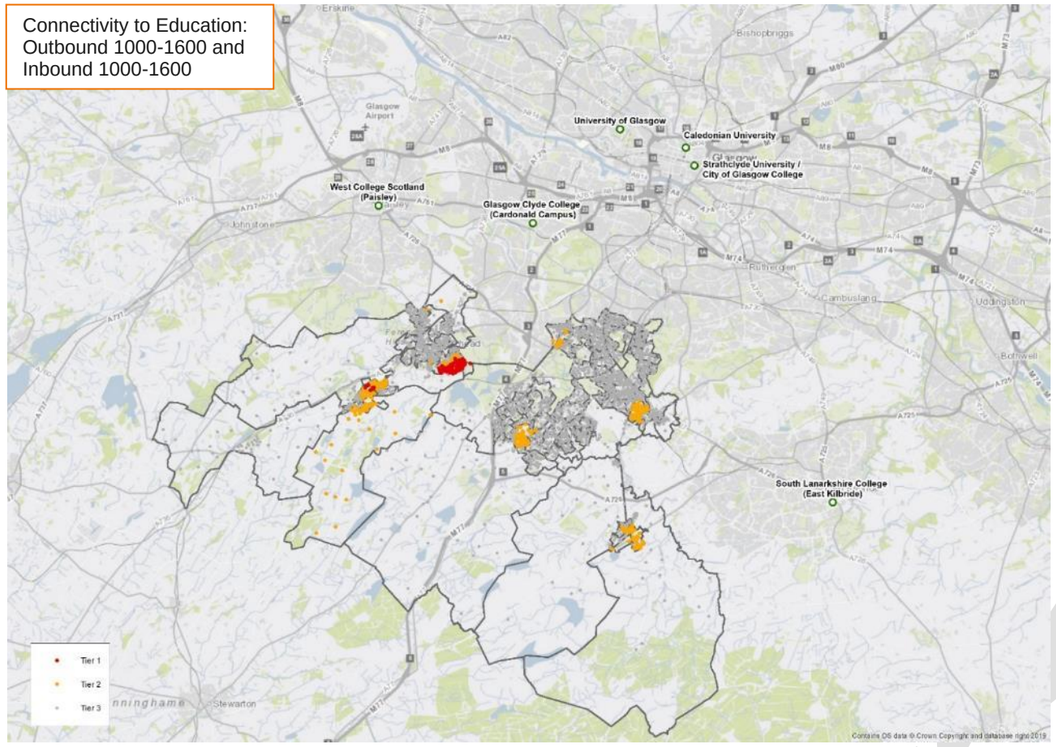
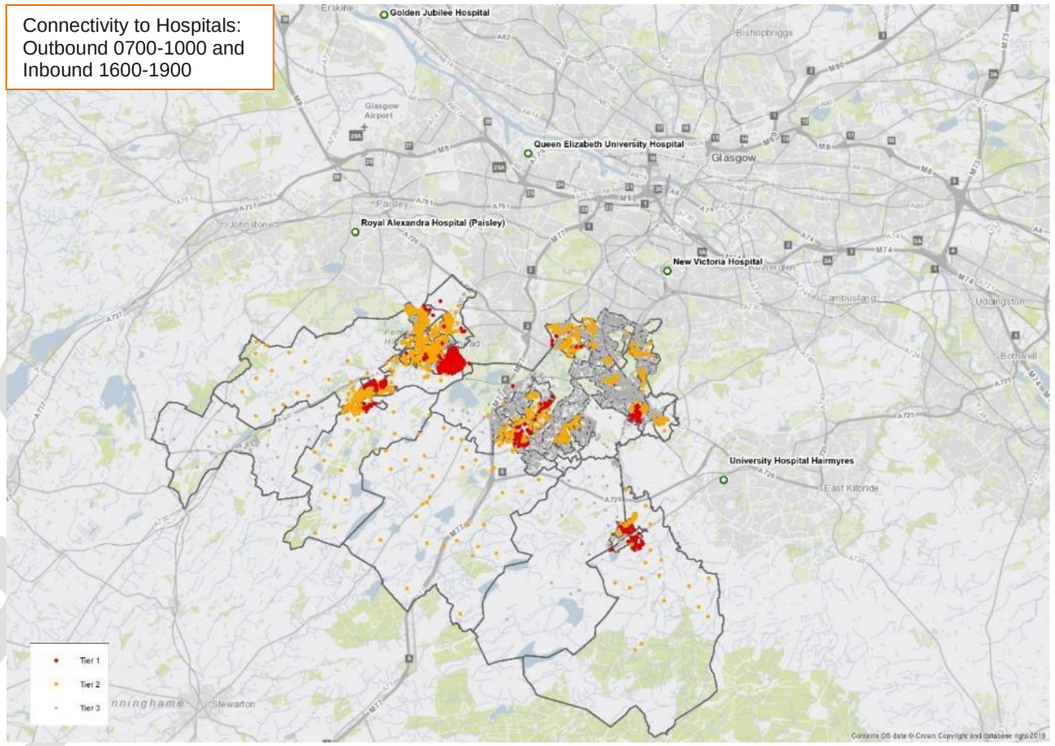


Figure 53: Connectivity to Hospitals, Peak Return



8.5.11 Travel in the inter peak reduces the number of postcodes that are in tier 1 from 5% of the population to 3% (~2,500). As the SIMD weighting factor is fixed this would lead to suggest that this reduction indicates an increase in connectivity in the Barrhead and Neilston area outwith traditional peak periods. Investigating this further, highlights, the increased frequency of bus services along Main Street.

8.5.12 The number of postcodes in tier 2 also reduces, with the number of residents in this tier also reducing by 2% as with tier 1. In general, the areas mentioned in the AM peak remain consistent in the inter peak which indicates limited, if any, change in connectivity in the Mearns Village, Eaglesham and Busby areas and that only Barrhead and Neilston witness any change in public transport provision which increases their ability to reach educational institutions by travelling out with peak periods.

Connectivity to Hospitals

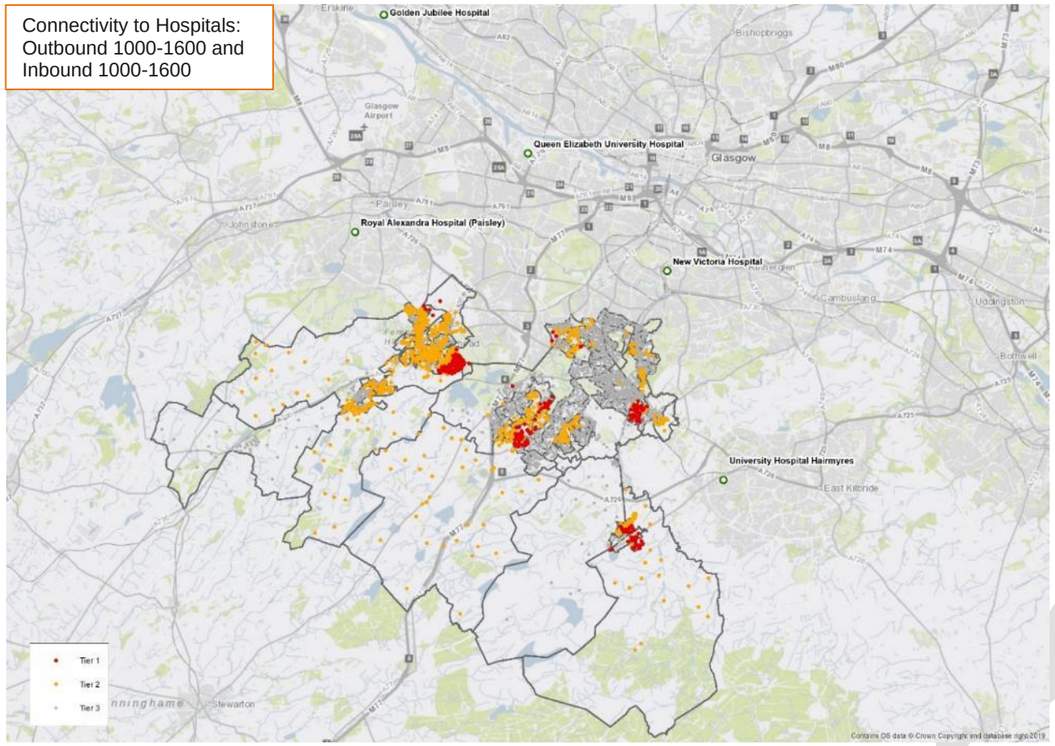
8.5.13 This section illustrates the outputs of the analysis for the larger, specialist Hospitals containing Accident and Emergency facilities. The calculation for measuring connectivity to hospitals included an attractor factor consisting of total admissions by residents of East Renfrewshire at each hospital in the past year and the health decile from SIMD 2016.

8.5.14 The AM map highlights a significant number of pockets of poor connectivity to hospitals. The weighting places a greater emphasis on access to the Queen Elizabeth, followed by the New Victoria hospital. 12% of East Renfrewshire's population at time of the 2011 census live within a tier 1 postcode, with the greatest number of these postcodes falling within Barrhead. Newton Mearns (specifically Mearns Village), Neilston and Eaglesham also display poor levels of connectivity and levels of health as assessed by SIMD 2016.

8.5.15 As previously alluded to, the lack of services from Barrhead towards the north-east as opposed to towards Paisley may be impacting on these levels of connectivity, increasing the need for interchange and journey times. Bus services serving the hospital itself will be having a significant impact on these scores as there are no direct services from the East Renfrewshire area to the hospital.

8.5.16 A further 33% of the resident population live within tier 2 postcode locations, as these are mainly located closer to the high frequency bus corridors, so may fall within this tier due to reductions in interchange time and possibly, slightly better performance against the SIMD indicator.

Figure 54: Connectivity to Hospitals, Inter Peak Return



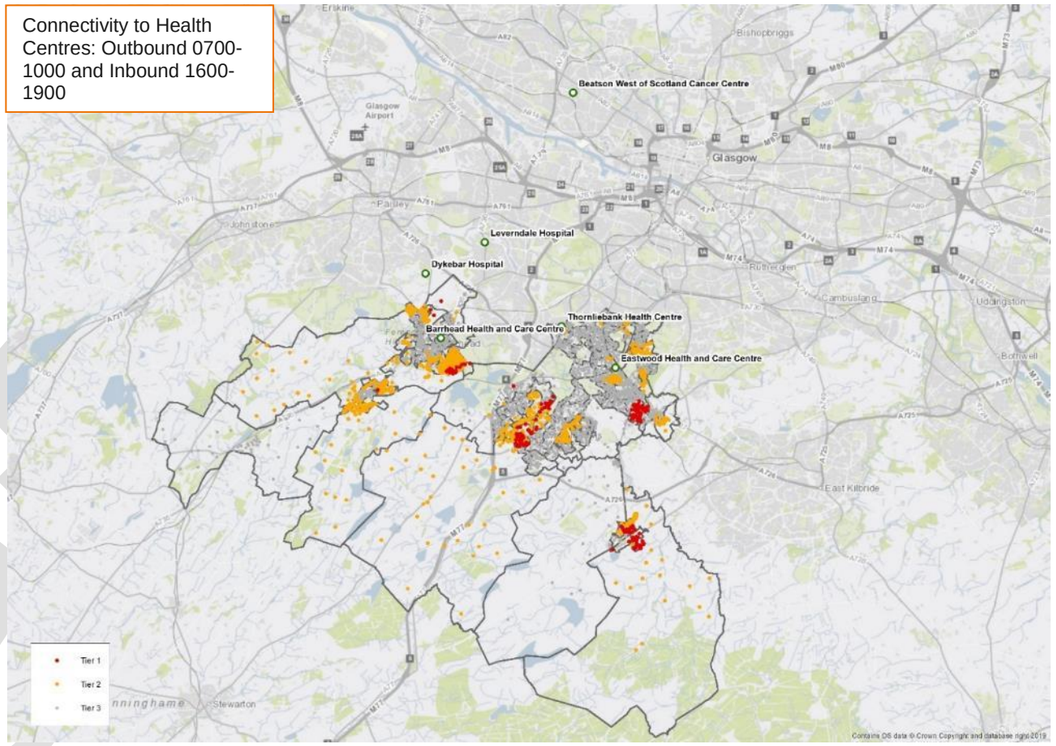
8.5.17 Return travel during the Inter Peak, again highlights the impact of higher frequency services along specific corridors within the study area. The increased service provision reduces the number of residents recorded at tier 1 postcodes from 12% in the Peak to 9%. Neilston witnesses the biggest change here, with no postcodes falling into the tier 1 category during this travel window, compared to 34 postcodes in the Peak.

8.5.18 Other pockets of postcodes witness marginal changes, with those in Mearns Village and Eaglesham not experiencing much change at all as bus frequencies and service provision does not vary significantly from the Peak.

Connectivity to Health Centres

8.5.19 This section illustrates the outputs of the analysis for Health Care Centres and specialist health centres, such as the Beatson. The calculation for this analysis involved the integration of weighting factors using the health decile from SIMD. The weighted attractor factor was left equal for all facilities, as each was thought to have a specific use to address the needs of East Renfrewshire residents. In this case, journey times are compared directly against all destinations without the weighting factor.

Figure 55: Connectivity to Health Centres, Peak Return



8.5.20 The Peak map identifies similar pockets of tier 1 postcodes as witnessed for the above destination types. Barrhead however, displays a significantly lower correlation for Health Centres due to Barrhead Health Centre being located within close proximity to the largest population within the settlement. Access to Eastwood Health Centre identifies potential connectivity issues for Busby, Newton Mearns and Eaglesham, for which it is the closest Health Centre in the area. This again is likely reflected by the poor levels of east-west service provision.

8.5.21 Based on 2011 Census data approximately a quarter of the population live within tier 2 postcode locations, with residents of Barrhead, Neilston and Newton Mearns accounting for 75% of this total.

Figure 56: Connectivity to Health Centres, Inter Peak Return

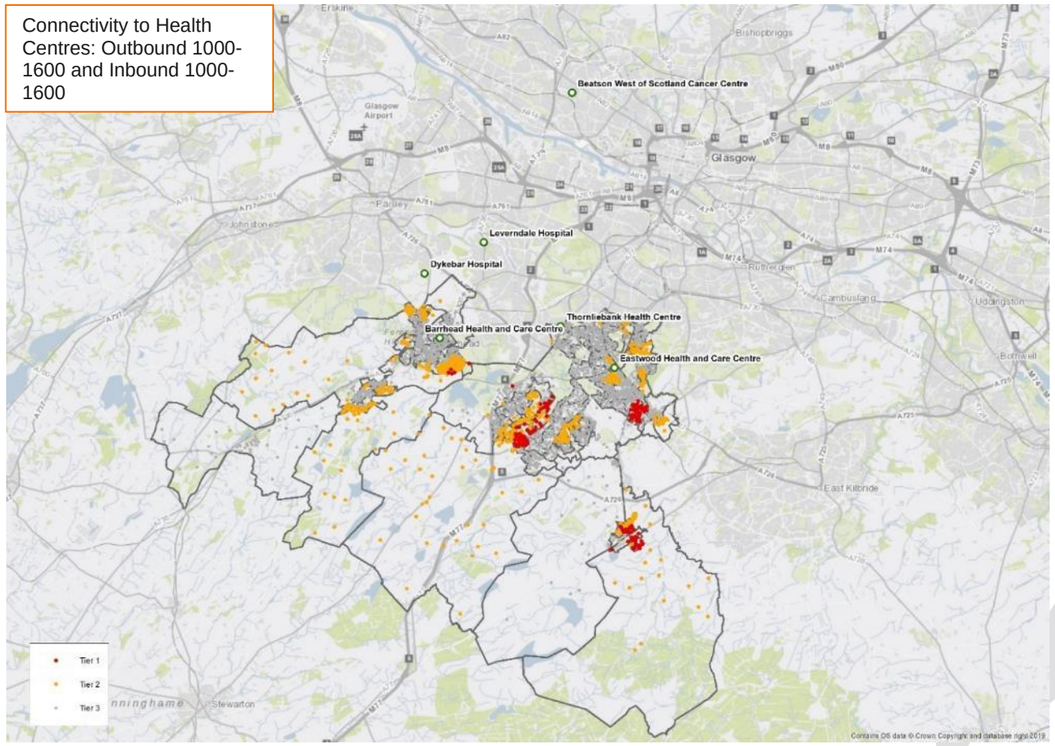
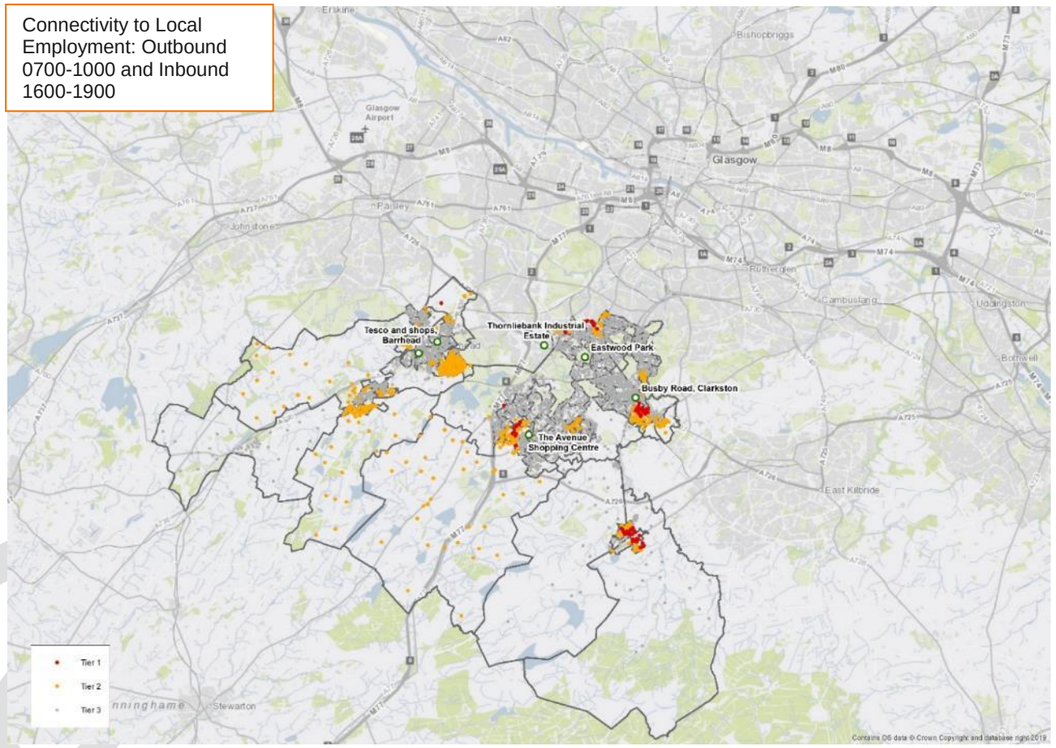


Figure 57: Connectivity to Local Employment, Peak Return



8.5.22 The Inter Peak analysis almost reflects the Peak maps exactly, with 6% of the population living in tier 1 postcode areas and a marginal reduction in tier 2 postcodes, reducing the population by 5% to 21% living in this tier.

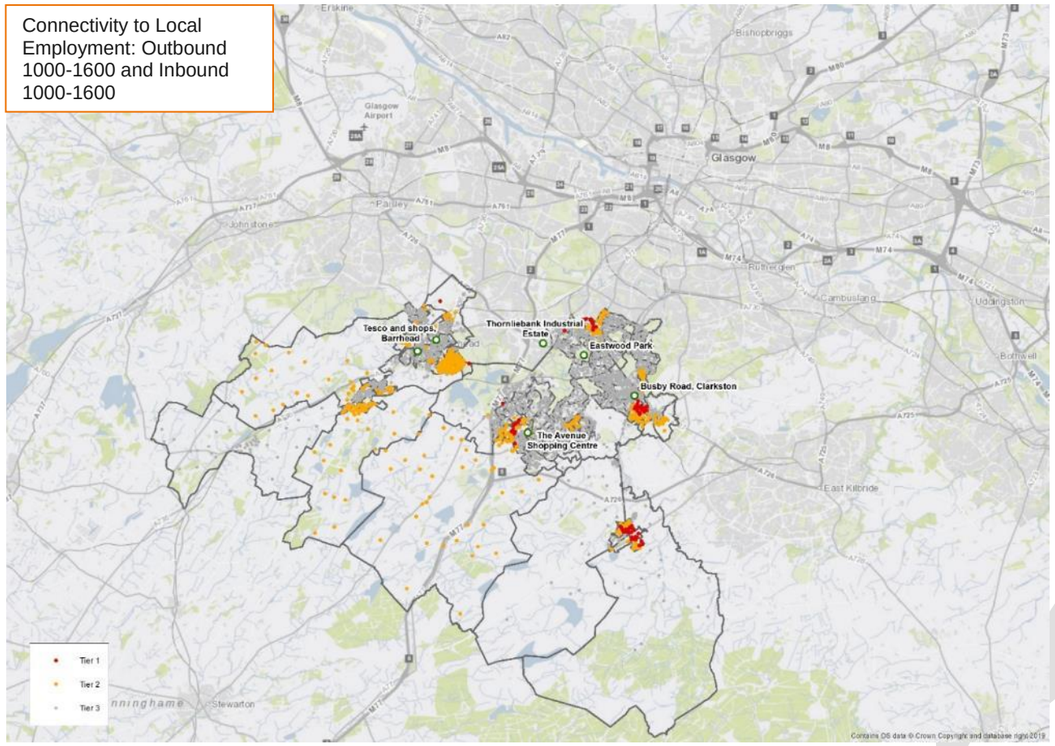
Connectivity to Local Employment

8.5.23 This section illustrates the outputs of the analysis for Local Employment centres within East Renfrewshire. The five largest employment zones within East Renfrewshire were identified through analysis of employment data from BRES 2018 (Business Register & Employment Survey). The calculation for this analysis involved the integration of weighting factors using the Employment decile from SIMD combined with an attractor weighting factor using the number of jobs in the zones. The area surrounding Main Street in Barrhead is the most prominent zone, due to the condensed number of jobs in the Council office, Barrhead Foundry and Asda supermarket which all share the same datazone.

8.5.24 Connectivity to local employment records some of the lowest percentage scores in terms of apportioning postcodes to tiers. In part this could be driven by the relatively high employment status of East Renfrewshire residents. Although it should be noted that a significant number of residents work out with the local authority area. Just 2% of the population is found to live at tier 1 postcodes for access to local employment and just under a fifth live within tier 2 postcodes. As previously stated, the area around the Main Street in Barrhead is the main constituent of the most jobs within East Renfrewshire. Therefore, findings reflect that tier 1 postcodes are found in the eastern limits of the local authority area, which provide poor levels of connectivity to and from the western extent of the local authority area.

8.5.25 Just under 80% of the population live in tier 3 postcodes, which either signify no correlation or no specific issue with either employment, or connectivity.

Figure 58: Connectivity to Local Employment, Inter Peak Return

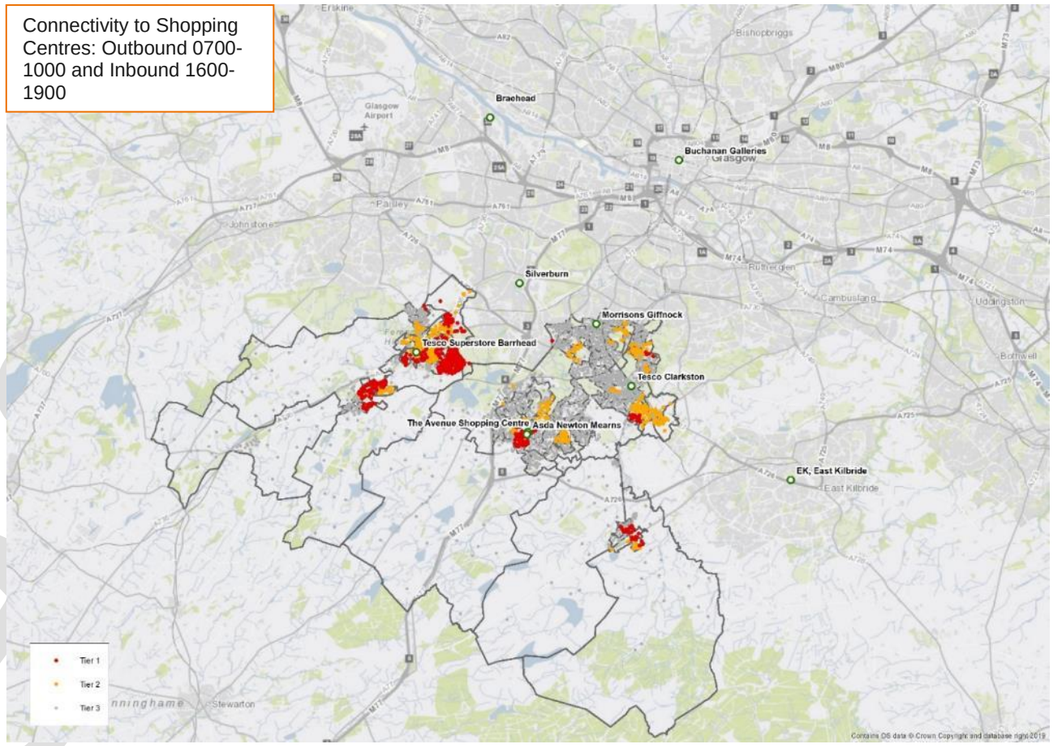


8.5.26 The Inter Peak is almost a mirror image of the Peak analysis. Which points towards the high employment deciles located within East Renfrewshire. Again, the east-west issue of severance can be witnessed through the location of the tier 1 postcodes.

Connectivity to Retail

8.5.27 This section illustrates the outputs of analysis to large-scale shopping centres in the area. A car ownership weighting factor has been applied in place of an appropriate SIMD decile, while connectivity is weighted by relevant retail floor space at each of the shopping centres.

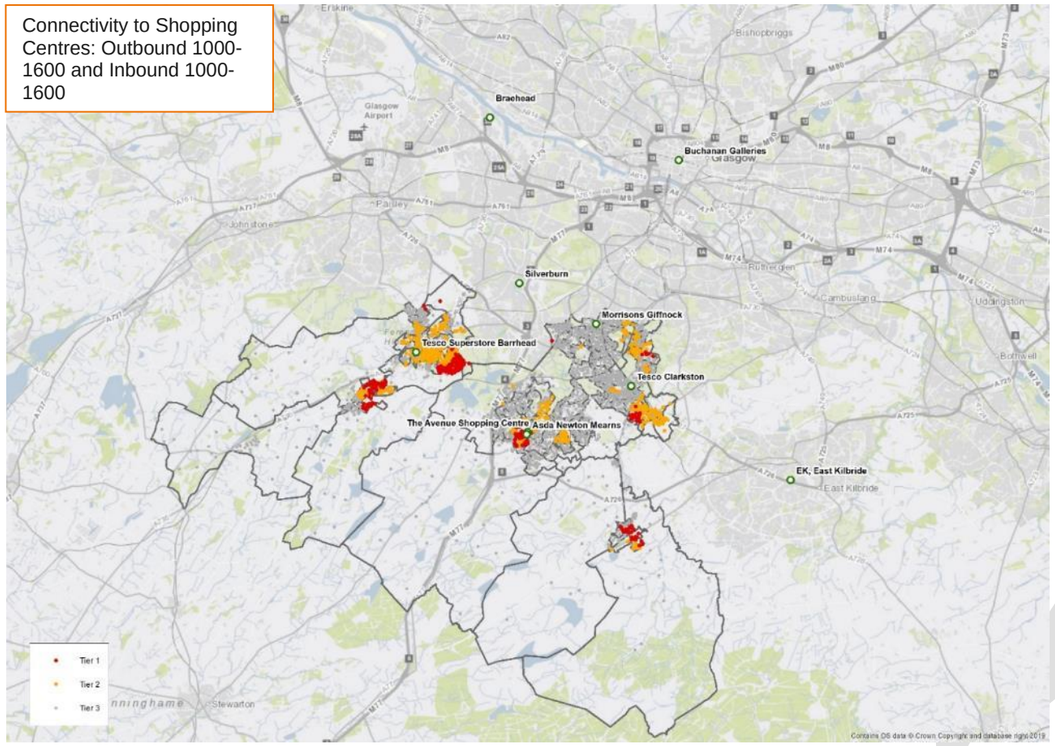
Figure 59: Connectivity to Shopping Centres, Peak Return



8.5.28 The most evident issue identified in the Peak map is the level of connectivity for residents of Neilston and Barrhead to the main shopping destinations. Both locations record some of the lowest car availability figures and as such rely on accessible public transport provision. Despite Silverburn being located just 3 miles from Barrhead, 46% of the settlement population live within a tier 1 postcode. Mearns Village also displays a low level of car availability and again reemphasises the need for improved public transport provision.

8.5.29 The areas in Eaglesham, Busby and Newton Mearns that currently sit within the tier 1 & 2 postcode level, are likely linked to the poor east-west connectivity by public transport. However, with these locations being mainly rural in nature, there exists a significantly higher car ownership level, and as such journey times to these destinations is less of an issue, as there are no means to currently travel by bus.

Figure 60: Connectivity to Shopping Centres, Inter Peak Return



8.5.30 The significant drop in the number of people living in tier 1 postcodes in Barrhead from 46% to 26% reflects the increased frequency and service provision that occurs during this time period. Specifically, from services that start out with the local authority area and mainly operate within this time period, such as the increased frequency of the X44 Stagecoach service which provides enhanced connectivity to Silverburn and onwards to Glasgow Buchanan Galleries. There is a marginal increase in the number of postcodes and subsequent population falling into tier 2 during the Inter Peak, and this is mainly due to a slight spreading behaviour where tier 1 postcodes now fall into tier 2 and likewise for tier 2 falling into tier 3.

Overview

8.5.31 Specific connectivity issues related to public transport equity include:

- Connectivity to hospitals / healthcare services including Queen Elizabeth University Hospital is poor particularly from Barrhead, Mearns Village, Neilston and Eaglesham
- Connectivity to health centres is poor from Busby, Newton Mearns and Eaglesham (due to east-west service provision)
- Connectivity to tertiary education is poor in parts of Barrhead and Neilston
- Connectivity to major retail centres is poor from Neilston and Barrhead, Mearns Village, Eaglesham and Busby

8.6 General Travel Times

8.6.1 In addition to the above analysis, the level of accessibility for all postcodes in East Renfrewshire was calculated to key destinations, broken into distinct sectors; Employment, Health (hospitals & health centres), Retail, Education, Leisure and City Deal locations.

8.6.2 Below is a summary of the key points from this general accessibility analysis [31]:

- Rural & remote areas are disadvantaged from low frequency and longer journey times, particularly the remote settlements of Uplawmoor, Eaglesham, Waterfoot & Mearns Village.
- Issue of severance highlighted for west-to-east movements across the local authority area, demonstrated by differences in travel times of up to 50 minutes from Uplawmoor, Neilston and Barrhead to East Kilbride.
- Internal east-to-west movements highlights a similar issue of severance, especially to locations in Barrhead and Neilston.
- External east-west movements do not display similar issues and this is likely linked to the good connections to rail stations and onward interchanges, via Glasgow Central.

8.7 Summary

8.7.1 This chapter sought to ascertain issues that contribute to inequalities within the transport system as well as wider social inequalities in the area.

8.7.2 A significant number of disadvantaged residents are in some way limited in their ability to do one or more regular activities as a result of transport, highlighting barriers to moving around. Demand for key services such as hospitals and health centres, which are currently difficult to access for certain disadvantaged groups, is likely to increase.

8.7.3 A growing need for Community Transport services, which are often fragmented across different service providers. This therefore limits the effectiveness of current service provision. Ageing population and increased number of concessionary passes / blue badges are likely to add to pressures.

8.7.4 Disparities with public transport fare across the authority, with higher fares in more deprived areas related to longer travel distances.

8.7.5 In many instances, public transport connectivity does not provide effective links to key health, employment, education, and retail service destinations. Key issues include

- Previously identified lack of east-west movements – such as low frequency of service provision along A727 (Rouken Glen Road) - is a major reason for the lack of connectivity and providing reliable access to key destinations along this corridor (i.e. Eastwood Health Centre, Eastwood / Rouken Glen Park and public transport interchanges).
- With the exception of the A77, there are no other high frequency north-south corridors linking the southern extent of the local authority with the north.
- Connectivity to hospitals, particularly from Barrhead, Mearns Village, Neilston and Eaglesham. Despite the Queen Elizabeth II hospital witnessing the greatest number of admissions from East Renfrewshire than other hospitals, connectivity by public transport is particularly poor, with no direct routing resulting in numerous interchanges being required.

8.7.6 Overall, connectivity issues impact the viability of public transport as an equitable mode of transport. This paradigm penalises poorer communities of East Renfrewshire who are less likely to have access to a private car, thus reinforcing existing inequalities. This is particularly relevant for households in the west of the authority who are more likely to be disadvantaged and less likely to experience good transport connectivity.

9 The Future Context

9.1 Introduction

9.1.1 The LTS is being developed at a time when a number of factors are likely to influence future transport systems. For the purposes of the report, four factors have been identified and considered further in support of the new LTS:

- **Land-Use Development:** significant land-use developments can alter where / how people want to travel to and from, drastically changing how they interact with the local transport network
- **Transport Innovation:** technological advances continue to disrupt the traditional transport system, with new innovations offering different alternatives to current methods of moving people and goods
- **Travel Behaviour Change:** the COVID-19 pandemic could accelerate a number of long-term trends in travel behaviour that will have repercussions for how and when people want to travel
- **Future Legislative Implications:** The Transport (Scotland) Act 2019 introduces a range of new measures which could affect East Renfrewshire's local transport system

9.2 Land Use Development

9.2.1 Development patterns heavily influence travel demand. Traditionally, land-use planning has not been prioritised in line with sustainable transport provision. This leads to an urban environment which often lacks integration between land use and viable sustainable travel options, leading to urban sprawl and resulting in people using private car as the de facto travel option to access service, employment, and leisure destinations.

9.2.2 The East Renfrewshire LDP2 has several major land use proposals which could impact transport demand within the area. Consequently, it is vital to understand where these developments are occurring and ascertain how they would impact the local transport system. Figure 61 outlines major land use proposals within East Renfrewshire.

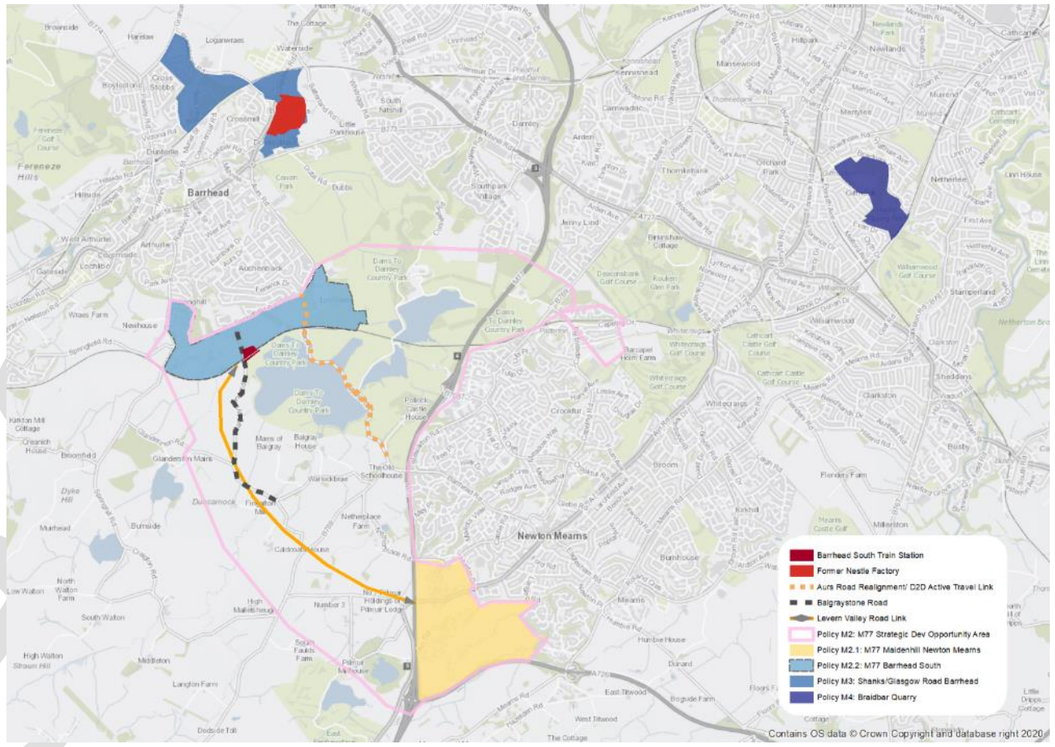
9.2.3 It should be noted that that Figure 61 only outlines developments **within** East Renfrewshire and excludes all City Region Deals / land use developments outside of the Local Authority Boundary.

9.2.4 A new LDP3 is set to be released in 2029.

Local Development Planning Priorities

9.2.5 Figure 61 highlights that most proposed and ongoing development is concentrated in the Barrhead / Newton Mearns area. This includes a programme of projects associated with the M77 Strategic Corridor Programme approved in 2015 to stimulate economic growth and business development, improve transport links and increase leisure opportunities. Although there are housing allocation sites beyond the extent outlined in Figure 61, the presented sites constitute 77% of the LDP's total Housing Land Supply and highlight the level of development within these strategic areas.

Figure 61: Proposed Land Use Developments within East Renfrewshire [42]



9.2.6 Table 24 outlines how these proposals would impact East Renfrewshire's transport system.

Table 24: Impact of East Renfrewshire Land Use Proposals on Local Transport Network

Policy / Interventions	Description	Potential Impact
Areas for Change – Spatial Delivery of Growth		
Policy M1: Master Plans	Master plans have been prepared as Supplementary Guidance to set the planning context for the three key master plan areas promoted through LDP1 namely: Maidenhill; Barrhead South; and Barrhead North. These sites provide a long-term supply of land for residential development up to 2029 and beyond, provide for other mixed uses and remain a core strategic component of this new Proposed Plan.	• Implementing Master Plans seek to support more people-centric urban environments, encouraging more active-travel trips and help create a more sustainable transport system within East Renfrewshire.

Policy / Interventions	Description	Potential Impact
Policy M2: M77 Strategic Development Opportunity	The key focus for current master planned development is the M77 area. This area spans Junctions 4 and 5 of the motorway, including the urban edges of Barrhead and Newton Mearns and the area of green belt between both settlements, much of which is within the Dams to Darnley Country Park. Although the areas adjacent to Newton Mearns and Barrhead are identified as separate master planned areas, they are viewed as complementary and able to provide cross benefits that will assist with the overall delivery of the Proposed Plan's Strategy. Those parts of the M77 area not contained within the urban expansion areas will remain as green belt.	• The expansion of Barrhead and Newton Mearns will increased populations that will increase pressures on the road network. • Increasing population may assist in increasing viability of public transport options, thus improving the overall public transport provision within East Renfrewshire.
Policy M2.1: M77 Strategic Development Opportunity - Maidenhill/ Malletsheugh, Newton Mearns	Development within the Maidenhill/Malletsheugh Strategic Development Opportunity (SDO), shown on Figure 41, will be acceptable in principle in accordance with Policy M1 and M2, and its supporting master plan which sets out a comprehensive approach to the delivery and phasing of sites. A total of 1013 housing units are allocated for the area.	• The southern expansion of Newton Mearns may lead to increase usage of A77 and M77, potentially exacerbating pressures on the strategic road network. • The masterplan area is isolated from public transport links. • Consequently, surrounding Park & Ride sites at Patterton and Whitecraigs may face increased pressures during peak times. If the planned Barrhead South Rail Station is developed, then that may also experience pressures. • Conversely, the increased population may warrant in the creation of a frequent and direct bus route(s) to service the site and wider Newton Mearns area, as well as active travel improvements, thereby enhancing the town's sustainable transport provision.
Policy M2.2: M77 Strategic Development Opportunity - Barrhead South – Springhill, Springfiled, Lyoncross	Development within the Barrhead South SDO, shown on the Figure 41, will be acceptable in principle in accordance with Policy M1 and M2, and its supporting master plan which sets out a comprehensive approach to the delivery and phasing of sites. A total of 959 units are allocated for the area.	• The site's creation would place pressure on Springfield Road, Balgraystone Road and Aurs Road, although the proposed City Deal projects would remedy these problems. • The Masterplan site is adjacent to a frequent urban bus service and the proposed Barrhead South station. Furthermore, proposed active travel links will connect the site to local active travel networks. Sustainable Transport connectivity may support reduced reliance on the private car.
Policy M3: Barrhead North - Strategic Development Opportunity – Shanks/Glasgow Road, Barrhead	The Shanks/Glasgow Road master plan area is located immediately to the north of Barrhead town centre. It is centred around the former Shanks industrial park, Blackbyres Road, and Glasgow Road. A total of 631 units are allocated for the area.	• Although the western side of the site is well serviced by Barrhead station and a frequent bus service, proposals may lead to additional pressures on the local road network (specifically Glasgow Road for eastern development, which may be exacerbated by the nearby former Nestle site development).
Policy M4: Braidbar Quarry, Giffnock	The remediation of the site remains a priority for the Council and options, including housing and other uses, will continue to be investigated. The site will be retained as protected open space under Policy D5 and identified as a longer term development opportunity, shown on Figure 41, until both an appropriate comprehensive remediation strategy covering the entire site and an appropriate solution to meeting education needs can be agreed and fully implemented.	• The site is adjacent to Giffnock and nearby Muirend Rail Station, with a frequent bus service on the A77 corridor. Any development may however result in pressures on the surrounding residential road network. A key priority therefore would be a focus on providing improved active travel links to the area and immediate public transport network in order to reduce impacts upon the local road network.
Policy M5: Locality Plans	Locality Plans are focused on tackling those inequalities within a specific geographical community. Neilston & Thornliebank will soon have their own Plans, to add to Arthurlie, Dunterlie and Dovecothall / Auchenback Plans	• Plans seek to deliver targeted interventions in order to deliver local priorities for actions. Outcomes are local benefits to specific areas.
City Deal Proposals		
Strat 3.1: Aurs Road	Realignment and upgrades of Aurs Road to improve safety and access to the Dams to Darnley Country Park and to provide access to the Proposed Visitor Centre (Strat 3.3)	• Enhancement of existing road link. Intervention would help facilitate active travel and public transport links through the Country Park, thus addressing barriers to East-West movements within the area. May induce car travel
Strat 3.2: Levern Valley link road	To facilitate improved access between the Levern Valley and Eastwood areas of East Renfrewshire.	• Improve East-West connectivity within the area and link the Barrhead and Newton Mearns expansion areas. May induce car travel. Insufficient information on any proposed active travel public transport links and / or prioritisation along the link road (e.g. express service along permanent bus lane).
Strat 3.3: Damns to Darnley Country Park - Proposed Visitor Centre	Proposed Visitor centre, car park, cable wakeboarding facility (Proposal D9.3 non city deal funded project) and other ancillary facilities that complement the visitor experience.	• May create increased travel demand to immediate area, which may improve viability of private / public bus links through the D2D Country Park.
Strat 3.4: Dams to Darnley Country Park - Balgray Reservoir	Active travel link creating improved accessibility from and to Barrhead, Newton Mearns and Dams to Darnley Country Park.	• Improves local active travel network and makes walking / cycling a more viable option for everyday travel.
Strat 3.5: Former Nestle factory, Barrhead (SG5.2, SG6.2 and SG11.2)	Mixed use retail (Neighbourhood Centre) / commercial / economic development (Policy M3 Barrhead North SDO – Glasgow Road East).	• May increase travel demand to the immediate area, putting pressures on local road network. Improved bus service along Glasgow Road may be required, although this could link into wider public transport link(s) though the D2D Country Park.
Strat 3.6: Balgraystone Road, Barrhead	Realignment and upgrades to serve the new railway station (Proposal Strat 3.7), improve access to the Dams to Darnley Country Park (including a new active travel walking and cycling route) and provide access to Barrhead South SDO (Policy M2.2).	• Would provide access to the mentioned destinations. May induce car travel .Additional consideration necessary for future bus connectivity and rail integration (as below).

Policy / Interventions	Description	Potential Impact
Strat 3.7: Barrhead South Train Station, Barrhead	A railway station and bus interchange located on the Glasgow to Neilston rail line within the Barrhead South SDO (Policy M2.2) to be served by the Balgraystone Road improvement (Proposal Strat 3.6).	• Would provide direct access to the local rail network for those living within the Barrhead South SDA - and to a degree – those within the Newton Mearns SDA. Potential for station to become Multi-modal hub for the immediate area. Potential future park and Ride capacity issues.

9.2.7 Although City Deal Projects seek to improve transport provision for the Barrhead South area (especially via the creation of a new train station in southern Barrhead), proposals do not fully address the impact of Newton Mearns expansion. Specifically, the pattern of car dependency within local communities that may develop without viable sustainable transport options (e.g. extended and integrated bus provision). As a result, improved public transport coverage to peripheral areas must be a key consideration in the development of the LTS,

9.2.8 City Deal Projects may support improved public transport connectivity and alleviate some of the barriers to east – west movements across East Renfrewshire. Examples include a circular bus route between Newton Mearns and Barrhead or a regional orbital bus route. Any proposed solution must however acknowledge wider issues in terms of public transport integration between modes and operators, as well as 'first and last mile' problems in order to improve the overall attractiveness of public transport over private car.

National Development Planning Priorities

9.2.9 At the time of writing, proposals within the Strategic Transport Project Review 2 (STPR2) and National Planning Framework 4 (NPF4) were out for public consultation. Table 25 outlines location specific interventions which would be of relevance to East Renfrewshire. Please note, that national interventions such as the STPR 2's "Active freeways and cycle parking hubs (2) and Village-town active travel connections (3)" have not been included in the below analysis. Any location specific update will be included within future LTS development and appraisal.

Table 25: Summary of STPR2 and NPF4 Proposals

Intervention	Description	Impact
Strategic Transport Project Review 2		
Clyde Metro (11)	A metro transport system that improves connectivity in the Glasgow City Region up to around 15km from the city centre. It would target areas where connections are currently poor, including places where there is deprivation. Initial alignments show new Light Metro links from Newton Mearns and Barrhead/Neilston.	• The mass transit links are a considerable upgrade to current public transport provision within Newton Mearns, and could provide new connections for the upcoming land use developments within the area. • The western link would provide orbital links west to Paisley and beyond, improving the currently radial public transport connections which exist within the area.
Provision of strategic bus priority measures (14)	Transport Scotland would build on the current work progressing plans for the M77.	• Would improve reliability of bus journey times along the area's main travel corridor.
Rail decarbonisation (25)	Full STAG business case assessment for the decarbonisation of the East Kilbride and Barrhead lines.	• Would contribute to the further decarbonisation of the area's transport network, helping achieve net zero targets.
National Planning Framework 4		
1 – Central Scotland Green Network	Enhancements to provide multifunctional green infrastructure that improves placemaking and contributes	• Would improve active travel provision within the area • Help reduce travelled car kilometers and initiate wider modal shift for shorter journeys
	to the roll-out of 20-minute neighbourhoods	
3 – Urban Mass / Rapid Transit Networks	As per above (Clyde Metro)	• As per above (Clyde Metro)

9.2.10 The location specific interventions arising from these national documents supports a significant shift to how people undertake journeys throughout the area. The adjoining wider scale national interventions such as connecting towns by active travel / smart integrated public transport ticketing (STPR2); and Digital Fibre Network (NPF4) will also influence future funding priorities and predicate how people undertake journeys in the future.

9.3 Transport Innovation

9.3.1 Societies and economies are fundamentally evolving due to the exponential progress in the ways in which we collect, use and store data. Technology proficiency levels within populations are continually increasing, while at the same time there has been a radical change in societal attitudes towards environmental and health concerns, pushing them to the very forefront of the political agenda. As technology continues to evolve it provides the potential to improve the transport of people and goods, and to provide a more sustainable solutions to contemporary challenges.

9.3.2 There are four main areas of transport innovation considered relevant to the LTS:

- **Alternative Fuels:** the required decarbonisation of the transport sector's energy sources will have a dramatic impact upon travel behaviour, supply systems and public revenue streams
- **Shared Mobility:** the transition of people from 'users of' to 'stakeholders within' the transport system will alter fundamental aspects of transport services
- **Mobility as a Service (MaaS):** the integration of 'on demand' mobility services will require the dramatic modification of provision within local and regional transport systems
- **Automation:** has the potential to transform public transport (conventional and on-demand) and personal transport

Alternative Fuels

9.3.3 Most transport modes contain an internal combustion engine (ICE) which is fuelled by petrol or diesel. These fossil fuel sources emit high levels of CO_2 and other greenhouse gases. In Scotland, the transport sector is responsible for over 36% of Scotland's greenhouse gas emissions. Road transport make up the majority (66%) of emissions [15].

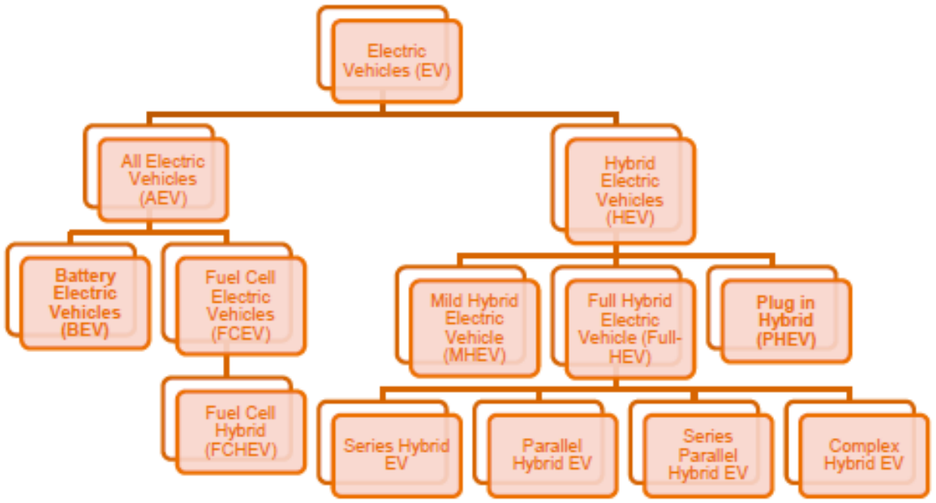
9.3.4 With the Scottish Government aiming to phase out the sale of new petrol and diesel cars by 2030 (and in addition to travel demand measures), it is vital that the LTS considers alternative fuels and environmentally friendly technologies as a key component of local and national 'Get to Zero' ambitions. These alternatives are outlined below.

Electric Vehicles

9.3.5 Electric Vehicles (EVs) are often perceived to be the solution for decarbonising the transport system. Notably, in urban areas, EVs have also become popular choices for mass transit systems like bus, trams, metro and heavy rail. They are also becoming increasingly used for internal transport in areas such as warehouses and airports.

9.3.6 There are several types of EVs split broadly into All-Electric Vehicles (AEV) and Hybrid Electric Vehicles (HEV) which operate using different supplies of energy. Battery Electric Vehicle (BEV) and Plug in Hybrid Electric Vehicle (PHEV) are viewed as the main types of EV on the market. These are illustrated in Figure 62 below.

Figure 62: Types of EV



9.3.7 Electric bikes (e-bikes) have proven popular over recent years, with electrical assistance addressing a number of barriers to conventional bicycling, and in turn allowing a broader demographic to travel greater distances. E-cargo bikes have more recently been promoted as a last-mile freight option, especially in congested / compact urban centres. The emergence of e-bikes and other micro-mobility options, including electric scooters and skateboards, are therefore a key consideration for the LTS and raise wider questions whether current infrastructure can safely accommodate an increase of these modes into the future (see para. 9.3.37 & 9.3.41 for additional overview)

9.3.8 It is estimated that by the mid 2020's, the cost of an EV will reach parity with internal combustion vehicles. Currently EVs are subsidised by both the UK and Scottish Governments, including the Transport Scotland Loan Scheme & Scottish Government Charging Grant Scheme. It is regarded that Scotland is now at a 'tipping point' to the mass electrification of the vehicle network.

9.3.9 This expansion has been accelerated by ChargePlace Scotland – the national Electric Vehicle Charging Network. The Network incentivises people and businesses to invest in charging points across the country. It aims to offer low cost, fast and accessible charge points as well as an interactive map to help EV owners plan their journeys and find the nearest available charge point.

9.3.10 Notwithstanding, the current level of available charging infrastructure is still one of the greatest barriers to substantial growth in the market. The existing charging network lacks both in terms of size and geographic coverage, with the fastest 'rapid' charging points particularly scarce. This, combined with the cost of purchasing a new EV, means that there are still substantial barriers to owning and using an EV.

9.3.11 Local authorities play a pivotal in managing the transition to EV's via local policy and management of the EV infrastructure network, but face a number of challenges:

- **Available Funding** – Historic sources of obtaining funding (and the competitive nature of this), has resulted in a patchwork approach to the provision of infrastructure. This lack of consistent funding has not been able to accommodate the growing demand for charging infrastructure, subsequently hindering the mass transition to EVs. In addition, there is no funding available for management and maintenance of public charging infrastructure, which must be met by local authorities.
- **Financing & Governance** – Whilst an important driver of early uptake, the provision of free to use public charge points (via ChargePlace Scotland) is a barrier to private investment. Instead, more sustainable financing models are required to remove these obstacles to facilitate private investment and thus expand the network.
- **Technical Expertise** – Technology is ever evolving, and local authorities are wary of investing in infrastructure only for it to become quickly outdated. There is a distinct lack of support and guidance through Scottish Planning Policy with regards to specifications, which discourages investment in new infrastructure.
- **Planning and Delivery Approaches** – There are no standard approach to the supply of EV infrastructure, risking inequitable delivery of charging provision which may detrimentally impact vulnerable groups.
- **Network** - A lack of incentives means designated network operators are often reluctant to invest in network upgrades.

9.3.12 Despite challenges, EVs have still made a significant impact in the Scottish market, with sales often outstripping the rest of the UK. This is seen in the total number of Ultra Low Emission Vehicles (ULEVs) licensed in Scotland rising from 2,051 in 2012 to 84,434 in 2020. The confidence in these trends has seen the Scottish Government invest significant amounts of money in improving infrastructure, resulting Scotland's figure of 43 charging points per 100,000 population exceeding the UK average of 34 per 100,00 by 9 (second behind London, which possesses a figure of 83 per 100,000).

9.3.13 East Renfrewshire has witnessed similar upward trends, with registrations of ULEVs increasing from 0 in December 2012 to 1,749 in December 2020 (as per Figure 11) placing East Renfrewshire 4th in the SPT region for the number of registered ULEVs. Despite increasing growth in ULEV, East Renfrewshire is ranked second worst in the SPT region (and nationally) for EV charging points, with 25 charging points per 100,000 people.

9.3.14 For East Renfrewshire to continue to promote the success of EVs, it will be necessary for further investment in infrastructure to provide additional charging points to support year on year growth. Options on how ERC facilitate this includes:

- Transitioning from the current ChargePlace Scotland model towards one which leverages private capital and skills
- Leveraging private capital to lessen the cost to public sector while also bringing in the expertise of private operators to the establishment / running of networks
- Implementing mixed economy models where the private sector works in partnership with the Council
- Use existing ChargePlace Scotland assets which are owned by ERC to form part of a wider network. This would allow for value to be realised from the initial public investment in charge points and increase the overall level of investment in new infrastructure.
- Adopt a tariff-based charging policy to encourage private investment.
- Allow public access to any 'in-house' chargers which the Council currently / will own when they are not being utilised by the Council. This will thus maximise the cost benefits of the ERC's own public sector decarbonisation.

9.3.15 Overall, a combination of home, workplace, destination, and public charging points are required, with charging 'hubs' (potentially as part of a wider Mobility Hub network[7]) being the preferred option. This investment will be necessary to not only support the growth of private ownership of EVs, but also to encourage the uptake and switch of council owned fleets to EVs. Such examples could include buses to schools and the introduction of other EV bus fleets in the local authority. The provision of these charging points can be tied into the planning policy within East Renfrewshire to ensure new developments include the infrastructure to provide charging opportunities at home.

Hydrogen

9.3.16 Hydrogen can be used instead of fossil fuels within an ICE and only produce energy and water, not CO_2 emissions. Currently, hydrogen is produced from fossil fuels, but under standard pressure and temperature

[7] Mobility Hubs are places where people can connect to different modes of transportation

it can be obtained from renewable resources. However, the cost of producing hydrogen via renewables is high in comparison to fossil fuels making it less competitive.

9.3.17 Hydrogen can be used to power fuel cells and produce electricity. Fuel Cells do not produce emissions and can be an alternative to batteries in cars which have their limitations. These are compact which makes them ideal for portable application within road vehicles and they are already commercially available in some hydrogen powered vehicles, such as the Toyota Mirai.

9.3.18 Though, due to a lack of hydrogen refuelling infrastructure, they are not viewed as competitive compared to ICE vehicles or EVs. Furthermore, the highest investment in hydrogen and Fuel Cell Vehicles are currently concentrated in a small number of countries including the USA, Japan, China, Korea and a few EU countries. Currently, worldwide there are just 376 hydrogen refuelling stations.

9.3.19 The Whitelee Windfarm however puts East Renfrewshire in an excellent position to be one of the first – and thus main – suppliers of hydrogen within the SPT area, and thus provides a position of strength from which the Council could build on. This area requires further investigation.

Biofuels

9.3.20 Biofuels are produced from renewable organic materials and have recently been used as alternative fuels for cars. There are two main types: bioethanol and biodiesel, both of which produce significantly fewer pollutants than fossil fuels.

9.3.21 Biofuels are rarely used as the sole fuel to power a car; however, they are frequently blended with other fuels like petrol and diesel to make them more environmentally friendly.

Impact of Transitions

9.3.22 Although the transition to alternative fuels may reap environmental benefits, there are some implications from this widespread transition.

Tax Revenue and Implementation

9.3.23 The uptake of these alternative fuel replacements means there are fewer people purchasing and being taxed on traditional fuels like petrol and diesel. Thus, there would be a significant loss of tax revenue which helps maintain public services.

9.3.24 Alternatives to subsidise the loss of fuel tax revenue include road-user charging. This involves the levying of a fee or charge for road use that aims to use price as a means to influence a proportion of road users to change driving and / or travel behaviours to manage demand for the use of road space. Though ERC would lack the legislative authority to implement such a scheme, it is important that this issue is highlighted. With increasing public support and governments considering feasibility of road user pricing, this is likely to become increasingly prominent during the lifetime of the LTS.

Implications for Decarbonisation

9.3.25 While the future decarbonisation of the transport sector looks promising, implications of vehicle production, fuel generation and equitable transition to low emissions vehicles are often overlooked. If these issues are not acknowledged, then there is potential to miscalculate decarbonisation target achievements. By critically engaging with the introduction of alternative fuels, potential issues that may materialise upon their adoption can be avoided.

9.3.26 Some issues which need to be considered include:

- The raw materials for EV batteries require mining for minerals and metals, namely lithium, manganese, copper, and nickel which can result in high levels of resource extraction and depletion in comparison to what is required for ICE vehicles.
- Despite longer term CO_2 savings associated with EV's, the manufacturing of EVs can emit more CO_2 than ICE vehicle production. The global warming potential of BEVs is almost twice the impact of that of ICE vehicles due to battery-related and electronic component manufacturing.
- Some batteries in EVs have become a safety concern in terms of battery fires or become faulty, for example, if they are damaged during a traffic collision.
- Although EV's have zero tailpipe emissions, fine particulate emissions from tyres still remains a local air quality concern
- The 'end of life' of an EV battery can also have negative environmental impacts
- Some alternative fuels require the production of electricity which can be via renewable or non-renewable sources.

9.3.27 Although the Council has limited influence over these wide-reaching problems, it is still pertinent to consider them, especially when it comes to making future decisions on how East Renfrewshire's transport network will be shaped for the coming years.

Travel Behaviour and Decarbonisation

9.3.28 There are several factors which are hindering the widespread adoption of alternatively fuelled vehicles. Examples include:

- Lack of cost competitiveness and availability in comparison with ICE vehicles
- Range anxiety
- Requirement for infrastructure development to cater for alternative fuel use
- Safety and legal liability of features within EVs
- Charging issues and battery service life and cost of replacement

9.3.29 Although new technologies are emerging to address these issues, NTS2 outlines that this won't be enough to achieve net-zero and a transition to more space efficient and sustainable transport systems is required.

9.3.30 A key rationale is that a total switch to ULEVs will continue to generate congestion and have a negative impact on people and businesses. For example, using an alternatively fuelled car without adjusting lifestyle or travel habits may lead to more frequent or lengthier journeys, especially if the vehicle is considered to be 'green', thereby leading to an increase in traffic volumes. Not taking steps to effectively manage demand for car use is no longer an option. Resultantly, demand management and reducing the need to travel by unsustainable modes is a key national priority, rather than a wholesale adoption of ULEVs / alternative fuels.

Summary

9.3.31 Overall, the shift to alternative fuels presents a number of uncertainties which need to be considered within the LTS. Whilst EVs appear to be the best solution, they may not be the correct one, with certain modes better suited to other alternatives such as biofuel and hydrogen. In many instances, wider adaptation of micro-mobility options such as e-bikes would represent a better and more sustainable solution.

9.3.32 Issues include financing the necessary infrastructure to facilitate a transition to alternative fuels. Revenue generating possibilities include private – public partnerships in order to realise private capital investment.

9.3.33 The Whitelee Wind Farm provides a starting point for East Renfrewshire's energy transition, and as such should be a seen as a corner stone to any future infrastructure network.

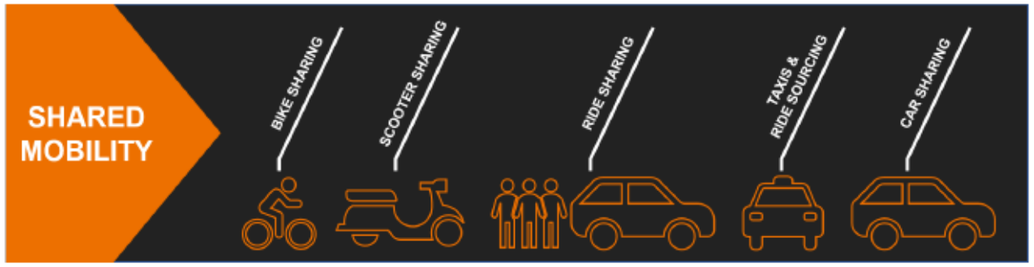
9.3.34 Furthermore, EVs should not been seen as a panacea for the decarbonisation of East Renfrewshire's transport system, as although they offer a variety of environmental benefits, they do not improve the efficiency, safety or sustainability of area's transport provision. Conversely, their implementation may in fact induce more car travel, further exacerbating problems associated with the already high car modal share which currently exists within the area.

9.3.35 As such, a range of policy measures which include both encouraging modal shift to public transport and active travel will still need to be pursued to achieve both decarbonisation aspirations and an efficient and sustainable transport system that aligns with current regional and national policy aspirations.

Shared Mobility

9.3.36 Shared Mobility can be defined as transportation services and resources that are shared amongst users, either at the same time or one after another. It provides users with short-term access as and when they are needed. It removes the need for vehicle ownership and provides people with a wider range of sustainable transport options than they would have had available under the traditional ownership-based approach. Examples of these options are outlined in Figure 63 below.

Figure 63: Outline of Shared Mobility



Bike Sharing

9.3.37 Bike share can be broadly defined as any setting where bicycles are pooled for multiple users. Models include public bike share (self service on-street docked or dockless stations), workplace pool bikes, railway station hubs, loans, lockers, and peer to peer sharing.

9.3.38 The most popular forms of Bike Sharing have been on-street docked Public Bike Share networks. The majority of bike sharing operators cover the costs of maintenance, storage and parking of bicycles; and users can pay on an annual, monthly, daily, or per-journey basis. In general, trips of less than 30 minutes are included within the membership fees. In addition to traditional bikes, schemes can also include e-bikes and cargo bikes as well.

9.3.39 There are three main types of bike share network which include:

- **Station-Based One-Way Access:** Bicycle can be returned to any station. The most common form of Bike Sharing.
- **Station-Based Round-Trip Access:** Bicycles must be returned to the same station where they were picked up.
- **Free-Floating One-Way Bike Share:** Offers users the ability to check-out a bicycle and return it to any location within a predefined area.

9.3.40 Previous ERC engagement regarding Glasgow City Council's cycle hire scheme, which offers over 500 bikes for public hire at 67 locations across the city via provider Nextbike, suggests extending this scheme cross-boundary is not possible under current contractual arrangements. Therefore, ERC would have to tender separately for a similar scheme or lobby for joint regional approach to ensure consistency across the Glasgow region.

Scooter Sharing

9.3.41 Shared e-scooters have become a popular part of the micromobility landscape in many countries around the world. Like bike share schemes, e-scooters can be located, booked and unlocked through an app on a smart phone. Fitted with batteries, the e-scooters allow users to 'twist and go' (or press a button) and glide along at up to 15.5 mph, with lower speed caps in some geofenced areas.

9.3.42 E-scooters have not been made lawful for use on the UK's public road network; however, the UK Government is now working with local authorities and operators to run a series of trials of rental e-scooters. Trial locations include London, Nottingham, and Derby. It is anticipated that the findings of these trials will enable use of electric scooters and open opportunities to introduce scooter sharing schemes across the country.

9.3.43 Although there remains a raft of legislative and safety issues regarding the use of e-scooters within the urban environment, a recent DfT study found that 15% of respondents would likely hire an e-scooter in a town or city centre if this were an option, with seven in ten respondents mentioning at least one advantage to the uptake of e-scooters. As a result, the validity of this new form of mobility must be recognised, with its impacts being considered within the LTS.

Ride Sharing

9.3.44 One of the most well-known forms of shared mobility is ride sharing where people with similar travel requirements share one vehicle, rather than make separate trips. 'Carpooling' is the most common form of ride sharing which can take three forms:

- **Informal:** organised independently of any carpooling system through friends, family, or colleagues. In addition, some informal carpooling schemes are community-based initiatives.
- **Organisational:** coordinated by an employer, university, or other large organisation for their members.
- **Formal Non-Organisational:** coordinated through an online platform or app that seeks to match people who have no other connection other than similar travel requirements.

9.3.45 Carpoolers will typically contribute to the running costs of the driver's vehicle and may share driving responsibilities. The above schemes also apply to other vehicles such as vans.

Taxis, Ride Sourcing and Community Transport

9.3.46 Taxis are the most well-established form of shared mobility and are now being incorporated into online ride sourcing platforms which enable journeys to be booked online or through an app. Ride sourcing providers coordinate a fleet of private vehicles that offer users services that are uninterrupted, personalised, highly flexible and provide a door-to-door service which covers individual requests from place of origin to destination.

9.3.47 In ride sourcing systems, a service charge covers fuel costs and vehicle depreciation, the driver's fee, remuneration for the company that linked consumer to the service provider and any taxes associated with the regulation of the service. They often use a dynamic pricing mechanism in which fares increase when demand is high and then efficiently adjust to the fluctuating demand throughout the day.

9.3.48 Community Transport services also provide vital links for people who are elderly, require special assistance or, for mobility or other reasons, cannot access public or other private transport. These are often provided by volunteers with minimal charge and, in some instances, are free. These are often lifeline services for people who have no other access to public or private transport providing key links to healthcare, shops and social events. Established Community Transport services currently exist within East Renfrewshire (as per Section 8.3).

Car Sharing

9.3.49 Akin to bike sharing, ride sharing helps break dependency on private car ownership and provides people with the benefits of using a car, but without the burden of having to own one.

9.3.50 Customers typically access vehicles by joining a car sharing organisation that provides a fleet of vehicles in the local area – sometimes termed 'Car Clubs'. Car clubs are typically delivered by commercial, or sometimes community, organisations that handles insuring, booking, maintaining and purchase of vehicles. Vehicles may be booked online or via a smartphone with users paying a fee each time they use the vehicle.

9.3.51 Like bike share schemes, there are three main types of operator based car share systems:

- **Station-Based Round-Trip Car Sharing:** Customers pick up a vehicle at a designated station and return it to the same place with fees normally being paid on an hourly basis.
- **Station-Based One-Way Car Sharing:** Like the above except vehicles do not need returned to the same station but can instead be dropped off at designated parking places across a city or region. These are harder to manage as operators must guarantee a level of vehicle availability and imbalance in demand between stations could lead to an oversized fleet and underused vehicles.
- **Free-Floating One-Way Car Share:** Enables vehicles to be picked up and dropped off anywhere within a designated operating area. There are no specific stations and while users can drive outside the operating zone, they still have to drop off cars inside the operating area.

9.3.52 An organisation such as a local authority may also decide to share their pool car fleet more widely by setting up a car club using their own vehicles via an operator. This has the potential for administrative cost savings. In addition, corporate membership options are also available and can 'block-book' cars to ensure they are available on demand for staff.

9.3.53 A COMO UK report highlighted how in November 2020, there were 30,657 car club members in Scotland – an increase of 21.5% since 2019. Their research revealed that 10.1 private cars were removed from the road for every one car club in Scotland, and that car club vehicles emit 37% less CO2 tailpipe emissions compared to an average UK car. Furthermore, it was discovered that car club members tended to walk and cycle more (60% walked / 25% used a bicycle three times a week).

9.3.54 These findings highlight the positive impacts of car clubs, and although the Council may have limited abilities to promote less-formalised forms of car sharing, there are opportunities to prioritise the formation of car clubs within East Renfrewshire via simple interventions such as prioritised car park / on-street spaces; and identification of major (e.g. large employers / education facilities) and minor (local community) partners.

9.3.55 Alongside traditional car sharing schemes, an emerging alternative is personal vehicle sharing where car owners rent their vehicle to other drivers on a short-term basis via a service provider. This option may be more suited to smaller communities where operator led model is less feasible. Generally, a company will broker transactions between car-owners and renters by providing the resources necessary to make the exchange possible (e.g. online platforms, customer support, insurance, etc.).

9.3.56 There are two main types of personal vehicle sharing which are:

- **Peer to Peer Car Sharing:** privately owned vehicles that are temporarily made available for shared use by an individual or members of a peer-to-peer car sharing company. The operator facilitates the rental and retains a portion of the fee to cover operating costs.
- **Fractional Ownership:** Involves the ownership of a vehicle amongst a small number of people, with each of these individuals taking up a portion of the expense for access to the shared service.

Delivering Shared Mobility

9.3.57 Shared Mobility trends are already emerging and there is an opportunity to influence their development to ensure that future mobility is more inclusive and less environmentally impactful than traditional travel systems. This will be essential to ensure Shared Mobility develops in a manner consistent with policy aspirations to reduce carbon emissions and deliver inclusive economic growth through sustainable access to essential services.

9.3.58 To facilitate this, it is essential that Shared Mobility is developed in line with the principles set out in Figure 64.

Figure 64: Core Principles of Shared Mobility

Mobility as a Service (MaaS)

9.3.59 MaaS envisages users buying transport services as packages based on their needs instead of purchasing the means of transport itself or in a series of distinct packages. It is generally perceived as an integrated online interface (e.g. a mobile phone application) comprising of an intermodal journey planner, single payment portal and booking system incorporating the entire end-to-end journey stages.

9.3.60 Although MaaS is still at a distinctly developmental stage, it is comprised of six agreed upon fundamentals:

- **Multi-Modal:** integration between multiple modes of transport including public transport, active travel, and shared mobility solutions (as outlined above)
- **Payment Solutions:** users are able to pay for their travel across a range of modes directly through the MaaS platform with integrated multi-modal ticketing solutions built within
- **One Platform:** for everything including travel information, booking, ticketing and payments
- **Integration:** bringing together customers, transport providers, public sector, payment processors, telecommunication companies and the platform owners
- **Digital:** an online platform supported by telecommunications technology
- **User Focused:** centred around demand from customers and personalised to their needs

9.3.61 There are two types of payment model anticipated for MaaS:

- **Subscription Service:** Customer buys a 'bundle' of services which are proportionate to their budget and mobility needs, all of which would be delivered via an online interface. An example of this subscription model could be a 'fortnightly' subscription which would provide the MaaS customer with unlimited trips on public transport, 11 hours of car sharing, 10% discount on ride-hailing services and unlimited bike rental.

- **Pay as You Go:** A MaaS customer would be provided with the range of available transport services on a single ICT interface. The customer would choose their mode(s) for that journey and a single, one-time transaction price for the whole journey would be paid by the customer. Here, there would be the potential to include a pricing cap which could be applied at a variety of timescales (i.e. daily, weekly or monthly) which would encourage increased usage of MaaS' more sustainable services (e.g. cheap cycle hire, but increased prices for car rental).

9.3.62 It has been argued that the Subscription Model is flawed because, as it has already been paid for, any modal choice thereafter is a sunken cost in the eyes of the customer (i.e. with membership fee already paid the customer is incentivised to take advantage of the discount available). This potentially makes more convenient, but less sustainable modes, such as car or taxi, more enticing. Conversely, a Pay as You Go Model could potentially encourage a more sustainable and denser use of transportation services. This is due to users not being incentivised to maximise their usage of the full suite of services and also being more adaptable to the changing travel behaviours of users

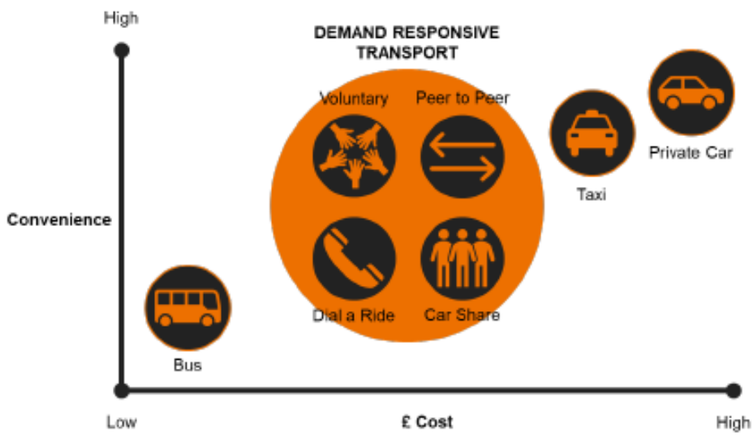
Delivering Mobility as a Service

9.3.63 The implementation of MaaS presents an opportunity to provide a significant step change in the integration of the transport system. However, there is no single and readily available MaaS solution which can be uniformly applied to every environment, with each area needing to explore the solution which works best for them. In the context of East Renfrewshire, any such provision would most likely either be an extension of Glasgow's MaaS network or be embedded within the SPT region's wider solution. Nevertheless, in either case the MaaS network would have to reflect East Renfrewshire's predominately family orientated, suburban environment and associated travel patterns.

9.3.64 As discussed in Chapters 6 & 8, the availability of one or more public transport services is limited within parts East Renfrewshire. With MaaS expected to only improve public transport integration and customer experience - as opposed to increasing actual public transport service provision - MaaS can thus only be successful in areas with strong and diverse public transport systems.

9.3.65 As such, a MaaS system would be most successful within East Renfrewshire if a denser, more connected transport network existed within the area incorporating a range of public transport and shared mobility solutions, including Demand Responsive Transport (DRT); a form of shared transport for groups or individuals, such as a bus, which alters its route based on demand rather using a fixed route or timetabled journeys

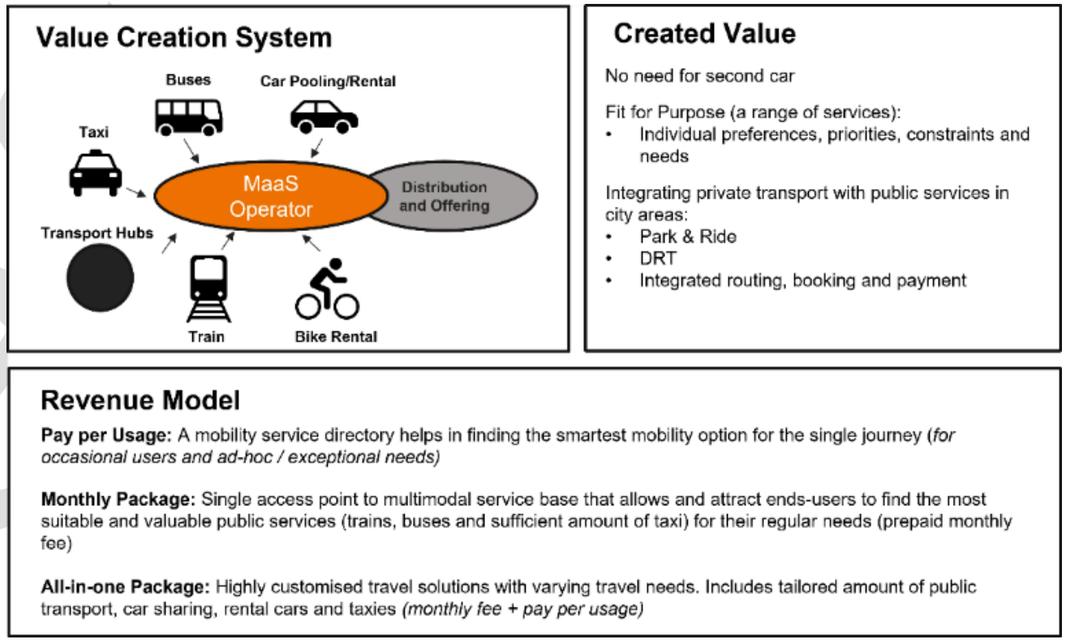
Figure 65: DRT Overview



9.3.66 An East Renfrewshire MaaS solution may focus on:

- Support development, and increase use of, future shared mobility services. This is in order to increase local transport options and address issues around multi-car households as well as the perceived necessity of private car ownership.
- Improving first and last mile accessibility to public transport services, including connecting suburban / peripheral areas to frequent regional public transport services, particularly around key transport hubs / interchanges, to increase public transport patronage.
- Improve integration across different transport modes and operators to ensure multi-stage / multi-mode journeys within the local and wider area are convenient, flexible, affordable and reliable.

Figure 66: Suburban MaaS Model



9.3.67 Finally, the geographical scale at which a MaaS scheme operates needs to be considered, as artificial boundaries could be created which limits its effectiveness. On this basis, a regional scheme may be most effective – thus, East Renfrewshire could then benefit from a MaaS network which operates across the SPT / Central Belt area.

Automation

9.3.68 The automation of the transportation system refers to a multitude of technologies that range from automated car features to modifications across a transport network integrating information and communication for different modes. Automation ultimately aims to complement the existing transport network by applying technological advancements to enhance the efficiency and safety for network users. In addition, it also seeks to reduce congestion, which has scope to reduce emissions, specifically in urban areas.

9.3.69 Automation can be split up into:

- **Automated Features:** Lane assist technologies, blind spot detection and automatically regulating a safe distance to the vehicle ahead. Most of these features already exist on current market vehicles.
- **Automated Capability:** Refers to several systems or automated features which collectively work together to conduct an overall task with little or no human intervention.

Different Levels of Automation

9.3.70 There are six levels of automation which range from a vehicle with no automation (a human is in complete control of the vehicle or device) to a fully automated vehicle (where the automated technological system performs the entire movement of the vehicle). This is detailed in terms of driving road vehicles in Figure 67.

Figure 67: Levels of Automation

DRIVER PERFORMS PART OF THE DRIVING TASKS		
NO AUTOMATION	*DRIVER ASSISTANCE*	*PARTIAL AUTOMATION*
The driver performs all tasks even if aided by enhanced warning or intervention systems	Some automation, such as steering or acceleration / deceleration features, are in place. These features use information about the surrounding environment to act and warn the driver. There is an expectation the driver will be engaged and perform the remaining tasks.	One or more automated features are in place such as steering and acceleration / deceleration, again using features from the surrounding environment. There is an expectation the driver will be engaged and perform the remaining tasks.
SYSTEM PERFORMS THE ENTIRE DRIVING TASK		
CONDITIONAL AUTOMATION	*HIGH AUTOMATION*	*FULL AUTOMATION*
The automated vehicle system will undertake all the dynamic driving tasks with the expectation that the driver will be engaged and intervene where required.	The automated vehicle system will undertake all the dynamic driving tasks with no expectation that the driver will need to respond or intervene.	The automated vehicle system will fully undertake all the dynamic driving tasks with no expectation that the driver will need to respond or intervene.

9.3.71 The technology which is currently available on the market mainly belongs to the category shown as *Driver performs part of the driving tasks*. The other category *System performs the entire driving task* involves technology which is being developed. Higher levels of automation have been developed though many are undergoing testing and pilot studies, thus they have not been successfully implemented into mainstream transportation to date.

Intelligent Transport Systems (ITS)

9.3.72 ITS manage the transport network via the utilisation of 'big data' and artificial intelligence (AI) to implement the most effective solutions to improve network efficiency and safety. The aim is to improve efficiency, safety, sustainability, increase travel time reliability and reduce the cost of the transport network on the economy and environment by distributing the information across all modes to benefit all network users. Users of the transport network would be able to access real time travel information and be presented with smart alternatives at identified areas of high congestion or disruption to inform their travel choices.

9.3.73 To counteract or limit the intensification of congestion or disruption, the ITS can manipulate the transport network by:

- Predicting traffic conditions via data from the surrounding environment and infrastructure
- Providing information to network users to best inform travel choice
- Car communication via signal controllers in the road infrastructure relaying information to individual vehicles to modify speed / act accordingly
- Smart intersections which collect data and relay information
- Redirecting road traffic
- Altering signal timings

9.3.74 ITS are being actively introduced into traffic control systems, vehicle designs and interactive systems for informing transport network users. There is also some cross over with ITS and 'smart cities', a concept which strives for urban areas to function in a sustainable and intelligent way through the cohesive integration of infrastructure and services by using technology. The aim is to generate a better quality of life for inhabitants of these urban areas. The main issue within the UK is the lack of investment, state of readiness and the awareness of the smart road transport concept.

Implementation of Automation

9.3.75 Although the development of this technology is advancing rapidly, regulation and the policy framework is currently not devolved. This is due to be rectified by 2021 when the Law Commission will release a regulatory framework. When these this framework is released, East Renfrewshire should engage with any regional or national pilots to thus integrate the benefits of automation into the local transport system,

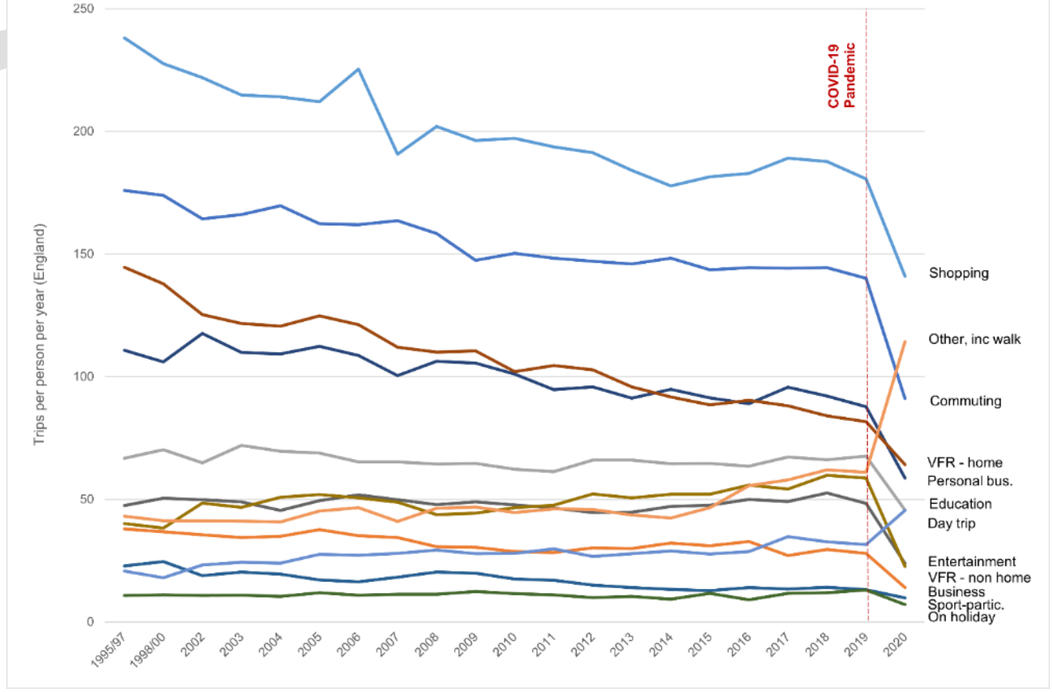
9.4 Travel Behaviour Change

9.4.1 Technological advances and the COVID-19 pandemic have accelerated long-term trends in how / why people travel, subsequently affecting how people interact with the transport system. Understanding these changes is vital to the forward planning of East Renfrewshire's transport system and must be considered within the LTS.

Historical Behaviour Change

9.4.2 There has been a long-term trend of people making fewer trips, illustrated in the DfT's long-running National Travel Survey [43]– shown in Figure 42. Although this data represents England, these figures are the most robust and up to date available and are considered to be broadly indicative of travel patterns across the UK.

Figure 68: DfT Trips Per Person Per Year



9.4.3 On average people are making 32% fewer trips per annum compared to the mid-1990s. Although it should be noted that before the COVID-19 pandemic (2019), this figure was 13%. All the main travel purposes have seen a decline, with only leisure-based walking and day trip categories experiencing an increase.

9.4.4 The average distance travelled has declined at a steeper rate (38%) meaning that the average trip length has decreased over this period. Notwithstanding, average trip duration has increased from 20 to 22 minutes over the same time frame. At the UK level, trip reductions have been offset by growth in population over this time.

9.4.5 Population growth has therefore been the main driver of growth in travel, offsetting the reductions in trips at the individual level. As discussed in Section 3.2, population projections are therefore a key element considering local transport trends and establishing future LTS objectives.

COVID-19

9.4.6 The COVID-19 pandemic has had substantial repercussions for travel demand. These need to be understood to inform future decisions about transport planning, infrastructure, services, and investment. Whilst the short-term picture (i.e. during the pandemic and the various levels of restrictions) is well understood, there is significant uncertainty regarding the structural and permanent changes in the longer term.

9.4.7 Table 26 outlines how the COVID-19 pandemic accelerated pre-COVID-19 trends, with Commuting & Business, Personal Business and Shopping all experiencing dramatic decreases in trip numbers. It should be noted that the drop in Education trips can be attributed to the shift to remote online learning; and whilst some Further Education facilities may have temporarily transitioned to 'blended' learning this has returned to in person learning, subsequently re-establishing the pre-pandemic growth in Education trips.

Table 26: DfT Trips Per Person Per Year - COVID Comparison

Trip Category	Percentage Changes in trips per person per year (England)		
	Pre COVID-19 (1995-2019)	COVID-19 Impact (1995-2020)	'COVID-19 Swing' (2019-2020)
Commuting & Business	-21%	-51%	**-29%**
Education	8%	-22%	**-30%**
Shopping	-24%	-41%	**-17%**
Personal Business	-21%	-47%	**-26%**
Leisure	-7%	-11%	**-4%**

9.4.8 As the above data was collected during the COVID-19 restrictions [43], it cannot be used to help understand or predict permanent pandemic induced changes to peoples' behaviour. However, over the course of the pandemic Transport Scotland undertook frequent surveys to ascertain public attitudes to travel. The latest survey (at the time of writing) was undertaken in late August 2021 and published on 3rd September 2021. It found that:

- 53% somewhat or strongly agreed that a year from now they would be walking or cycling more than before lockdown
- 48% somewhat or strongly agreed to be working from home more often than before lockdown (38% strongly disagreed)
- 61% very concerned or fairly concerned about contracting or spreading the virus on public transport

9.4.9 Furthermore, an April 2021 Edinburgh Napier University study [44] found:

- **Increased Active Travel**: After the pandemic, 45% of respondents expected to walk more than before the pandemic and 25% respondents expected to drive their car more
- **Reduced Public Transport**: 36% anticipated using buses less and 34% expected to reduce train use.
- **Increased Online Shopping**: 50% of the respondents indicated, that during the second lockdown, they were more likely to use home delivery for supermarket shopping when compared with pre COVID-19 pandemic conditions. Furthermore, when asked about their future shopping habits, 36% anticipated using home delivery for supermarket shopping more.
- **Increased Relocation**: 33% of respondents indicated that prior to COVID-19 pandemic, they were contemplating moving from their current residence in the future. During the COVID-19 pandemic this had increased to 40% with 17% of respondents who expect to move from their property in the future citing 'being able to work from home more often or permanently' as a contributing factor.
- **Increased Remote Working**: 54% of respondents indicated that they expected to work from home more in the future.

9.4.10 In general terms, the above themes represent an acceleration of many of the trends which were already underway. It is unknown however the extent to which these stated intentions become reality. It is likely that there will be a degree of oscillation in peoples' behaviour before a new equilibrium is reached. The level of behavioural change that the 'new normal' represents relative to 2019 is however impossible to estimate at this stage.

The main components which will determine this change will be:

Reduced Commuting

9.4.11 Reduced levels of commuting will be the most formative and changing component. This change will be focussed on 'Location Independent Jobs', i.e., the jobs which can most easily be done without being at the workplace. As an example, analysis presented in Figure 69 shows the number of jobs in the Information & Communication, Professional, Scientific & Technical and Financial and Insurance Services industries in the Glasgow / East Renfrewshire labour area, by datazone.

9.4.12 Figure 69 illustrates that a relatively higher proportion of Location Independent Jobs in East Renfrewshire are concentrated in areas with good public transport links with Glasgow. Fewer people commuting may therefore affect public transport demand and, in particular, peak hour demand could be significantly reduced.

9.4.13 Table 27 illustrates dramatically higher portion of residents working in professional occupations in East Renfrewshire compared to the rest of Scotland [45]. It may be inferred therefore that those living in East Renfrewshire are significantly more likely to work in Location Independent Jobs.

Figure 69: Location Independent Jobs in the Glasgow-East Renfrewshire Labour Market

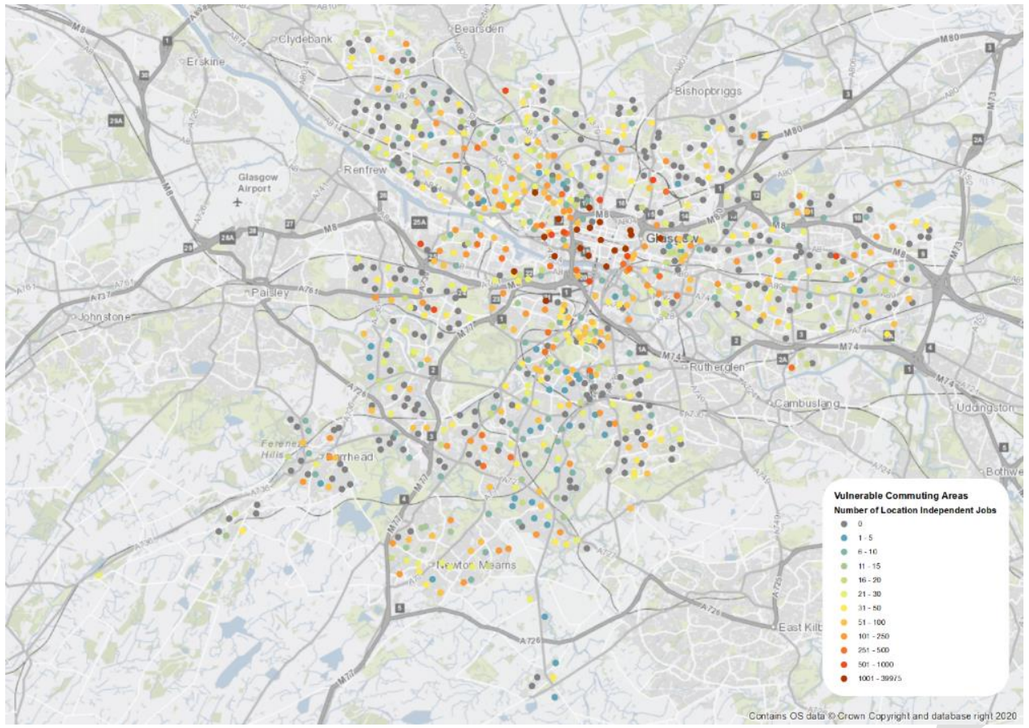


Table 27: Employment by Occupation (July 2020 - June 2021)

Job Group	East Renfrewshire (Numbers)	East Renfrewshire (%)	Scotland (%)
Soc 2010 Major Group 1-3	**27800**	**69.5**	**48.4**
1 Managers, Directors And Senior Officials	6000	14.9	8.4
2 Professional Occupations	14200	35.3	24.1
3 Associate Professional & Technical	7700	19.1	15.6
Soc 2010 Major Group 4-5	**4600**	**11.6**	**18.8**
4 Administrative & Secretarial	3000	7.6	9.6
5 Skilled Trades Occupations	1600	4	9.2
Soc 2010 Major Group 6-7	**5200**	**13.1**	**17.6**
6 Caring, Leisure And Other Service Occupations	2700	6.8	9.3
7 Sales And Customer Service Occs	2500	6.2	8.3
Soc 2010 Major Group 8-9	**2300**	**5.8**	**15.2**
8 Process Plant & Machine Operatives	Sample size too small for reliable estimate		5.3
9 Elementary Occupations	1500	3.7	9.8

Reduced Footfall

9.4.14 Consequently, employment centres with high numbers of Location Independent Jobs are at risk of reduced footfall, with implications for businesses which rely on this footfall for custom. If this happens at scale, there may be a need to re-purpose office buildings and reconsider urban functions more generally.

9.4.15 Historically most residents most East Renfrewshire residents travel outwith the area to access work. With a higher proportion of jobs to be location independent (i.e. being able to work from home), pre-pandemic commuting trips could be shifted to more local, internal trips within East Renfrewshire. This may potentially shift footfall to local businesses within East Renfrewshire, support local economic growth.

9.4.16 A long-term shift to remote working may also result in increased demand for local remote-working facilities. Development of local hubs would encompass many of the amenities currently provided in traditional office locations within the city centre. The development of these hubs would align with the Council's aspirations for 20-minute neighbourhoods and increased local living / working.

9.4.17 Conversely, it should be noted that these commuting trips may not translate into more local trips, and instead may simply dissipate due to the reduced need to travel, resulting in a reduced demand for local services and amenities. Furthermore, a shift to a greater number of discretionary journeys outside of the area may lead to ongoing economic leakage to the disbenefit of the local economy.

Online Shopping

9.4.18 The impact of reduced commuter footfall would be amplified by the more general shift away from high-street shopping to online shopping. Town and city centres may have to innovate and develop a new style of retail, hospitality, cultural and leisure offer if they are to retain their role as focal points.

9.4.19 An increase in working from home may result in local neighbourhood opportunities in terms of retail, hospitality and provision of other services. However, given wider trends in online shopping and an increase in discretionary journeys, this cannot be assumed and suggests efforts are needed to attract people into local urban centres. This in turn will support 20-minute neighbourhood aspirations.

Changes to Travel Patterns

9.4.20 As noted above, business travel and commuting has been declining for some time. With the widespread adoption of platforms such as Zoom and MS Teams, the move to remote meetings has been rapidly accelerated by the pandemic. Whist there will undoubtedly be some return of business travel, evidence suggests it will be at a lower level than before.

9.4.21 The Transport Scotland and Edinburgh Napier University research indicated increases in remote working and active travel pursuits. This reduction in commuting time may translate to increased leisure travel.

Societal Changes

9.4.22 Surveys suggest an ongoing reluctance to use public transport due to lasting concerns about the virus and perhaps a greater awareness of the risk of infectious diseases more generally. This allied to reduced commuting trips could have major implications for the sustainability of public transport service provision; commercial services may now require subsidy and subsidised services may now require further subsidy.

9.4.23 In response to reduced fares revenue, frequencies may be reduced and / or services withdrawn, diminishing public transport connectivity, and potentially increasing car usage. Public transport operators may therefore have to review the nature of the services they provide (or are specified to provide) in response.

9.4.24 Examples of changes already introduced is the current model of season tickets. Ticketing changes include the introduction of 'flexipass' (train) and 'flexible day ticket bundles' (bus) to account for more flexible travel patterns by many who previously commuted five days per week.

9.4.25 In the longer term, as the link between the workplace and the home is reduced or broken completely for some types of jobs, more people will consider where they want to live – a trend highlighted by the Edinburgh Napier University Report. This is likely to lead to both a more dispersed population within East Renfrewshire

and increased levels of in-migration from more urban areas within the SPT region. These changes may result in further pressures due to increase housing demand, with any future population growth resulting in a mix of environmental and travel impacts.

9.4.26 More generally, structural changes resulting from the pandemic may bring significant changes to the economy and the types of activity undertaken at different locations, with retail perhaps being the sector most 'at risk' from permanent changes in behaviour.

Conclusion

9.4.27 This section highlighted how there are several uncertainties around how the COVID-19 pandemic will impact travel behaviour and the wider urban environment.

9.4.28 Overall, changes to travel patterns are still to be determined. However, an apprehension of viral transmission on public transport, increased preference for private vehicle for commuting and an increase in discretionary car journeys (both within and outwith the local area) may result in a net-increase in car use overall.

9.4.29 Future travel behaviour is therefore largely dependent on the success or otherwise of managing travel demand, promoting sustainable commuting / shopping options and creating the right conditions to enable more walking, wheeling and cycling for everyday local journeys.

9.4.30 Consequently, these uncertainties will be captured in the development of objectives and options within the LTS scenario planning.

9.5 Legislative Changes

9.5.1 Transport Legislation is a constantly shifting landscape and changing to react to emerging challenges or societal aspirations. As such, the LTS must consider the implications of recently enacted legislation and how it could impact the operation of East Renfrewshire's transport system.

9.5.2 The Transport (Scotland) Act 2019 was passed in late 2019 and is the latest – and most pertinent – piece of transport legislation. Its main aim was to empower local authorities and make Scotland's transport network cleaner, smarter and more accessible. The Transport Act brought together a series of measures to improve different aspects of Scottish transport. These measures – and their potential impact upon East Renfrewshire's transport system – are outlined in Table 28. It should be noted that only relevant measures are discussed, with Road Works, Regional Transport Partnerships, and Scottish Canals Board related legislation being excluded from Table 28.

Table 28: Overview of Transport (Scotland) Act 2019 Impacts

Measure	Description	Potential Impact upon East Renfrewshire
Bus Services	Provides local authorities / regional transport partnerships with a flexible set of options to ensure that bus services meet local needs. Key provisions include: New Bus Service Improvement Partnerships • New/extended powers for local transport authorities to provide bus services to meet social needs • Powers to require bus operators to make more information available to the public on services, including routes, timetables and fares • Powers to require operators withdrawing services to provide more information to local transport authorities	• The increased ability of the Council / SPT to implement more flexible and efficient bus services which benefit those who need them the most will reduce social inequality within the transport system and enable the local population to access services and employment destinations more effectively. • As such, the LTS should identify opportunities to work with SPT to provide more bus services to benefit isolated communities. These services should complement any Bus Service Improvement Partnership measures.
Parking	Introduced a national ban on pavement and double parking. Key provisions include: • Providing local authorities with powers to enforce the national ban • The ability for local authorities to promote exemptions from the national ban (strict criteria applies) • Exceptions for certain vehicles if they are involved in emergencies or delivering goods • Providing local authorities with powers to share services with other councils to enforce the new restrictions • Requiring local authorities to keep accounts in relation to the money they receive from the enforcement of the new restrictions *Enforcement of the ban will occur from 2023.*	• The resulting re-allocation of parking will impact parts of East Renfrewshire's urban environment and place greater demand on urban areas with narrow streets and / or high parking demand. Conversely, the improved urban environment would create more favourable walking and cycling conditions and support active travel aspirations within the area. • Consequently, the LTS should consider how these changes in parking practices will affect the transport network, traffic management and determine how the Council will plan for the Bill's enforcement in 2023.
Low Emission Zones	The Act enables the creation and civil enforcement of low emission zones by local authorities. The Scottish Government is committed to introducing low emission zones into Glasgow, Edinburgh, Aberdeen and Dundee between. Key provisions include (but are not limited to): • Providing local authorities with powers to create, enforce, operator or revoke a low emission zone in their area and to design the shape, size and vehicle scope of their low emission zone • The ability for local authorities to promote permanent and/or time-limited exemptions from the requirements of a low emission zone, where certain requirements are met to a strict-criteria • Requiring local authorities to utilise the money they receive from the enforcement of the new restrictions for ring-fenced purposes, particularly to facilitate the achievement of the low emission zone scheme objectives • Providing local authorities with powers to create, operate and revoke low emission zones with other councils	• The implementation of a LEZ in Glasgow will impact certain vehicle movements between East Renfrewshire and Glasgow, especially for commuting and leisure trips. • Additionally, the legislation presents an opportunity for East Renfrewshire to improve air quality and increase ULEV ownership levels within the area. • As such, the LTS should mainly consider how best to react to Glasgow's LEZ, including opportunities to emphasise the negative impacts of vehicle emissions on local air quality and health while supporting more sustainable and healthy transport options.
Smart Ticketing	Strengthens compatible smart ticketing technology across operators and modes. Key provisions include (but are not limited to): • Extending existing ticketing arrangements and schemes to include connecting services • Giving Scottish Ministers the power to direct a local transport authority to make or vary a ticketing scheme	• Although this measure is beyond the remit of ERC, the Bill could possibly alleviate the problems which exist between transport operator integration and address current east-west movement problems. • Consequently, the LTS should consider how integrated ticketing could benefit residents in the area. Although legislation provides the basis for regional and/or national multi-mode ticketing, the current transport landscape does not guarantee this as an outcome.
Workplace Parking Licensing	Introduced a discretionary workplace parking licensing (WPL) power available to local authorities. It will be for the local authority to decide whether they wish to use that power and to shape proposals to suit local circumstances. Key provision includes (but are not limited to): • That it will be for local authorities to decide whether they wish to implement WPL locally and to shape proposals to suit local circumstances • Local authorities will be required to undertake consultation and impact assessments before implementing a WPL scheme • That local authorities may use revenues from the WPL to support the policies in their Local Transport Strategy	• A possible WPL in Glasgow could impact East Renfrewshire commuting patterns, by making driving to the city centre less favourable. As with the LEZ, this raises possibilities to introduce a similar scheme within East Renfrewshire. However, this is considered to be of negligible benefit due to limited internal / inward commuting patterns. • As such, the LTS should consider how a possible WPL within Glasgow would impact East Renfrewshire's transport system, including the possibility of business relocation / remote working 'hubs' (as per para 9.4.16)

Measure	Description	Potential Impact upon East Renfrewshire
	• Parking places reserved for Blue Badge holders, for healthcare workers at NHS premises, and parking places at hospices will be exempt from WPL charges	

9.5.3 Table 28 shows how recent legislation may impact East Renfrewshire:

- **Glasgow Interventions:** The confirmed LEZ (alongside any potential WPL) within Glasgow could disrupt travel patterns between East Renfrewshire and Glasgow, dramatically impacting the former's transport system. As such, the LTS should consider how East Renfrewshire's transport system responds to best support changes.
- **Parking:** The upcoming pavement parking ban will alter how people approach parking within urban areas. These changes could result in overspill parking in 'hotspot' areas and lead to additional pressures within the public realm. Consequently, the LTS should consider how best to manage private vehicle storage on the public road network, while also mitigating displacement impacts in areas with high levels of pavement parking or other traffic issues.
- **Smart ticketing**: Improved multi-mode ticketing has potential to address various issues regarding the affordability, integration and accessibility of existing public transport provision. Although dependent on wider regional or national approaches, this could meet the needs of residents while supporting viable alternatives to car journeys.

9.6 Summary

9.6.1 This section outlines how a wide range of external factors will influence how East Renfrewshire's transport system operates and how people utilise this to move around. An overview of these factors is presented below:

Table 29: Overview of Future Trends Impacts

Factor	Impacts
Land Use Development	Future major land use developments will be concentrated within peripheral Barrhead and Newton Mearns. Without mitigations, urban expansion (particularly within Newton Mearns) and strategic projects may induce car travel and negatively impact the local transport systems. As such future interventions may be required. National planning priorities may also influence the manner in which the local population make a variety of local and cross boundary journeys, although insufficient information currently exists to understand implications.
Transport Innovation	• **Alternative Fuels:** A switch to alternative fuels will be increasingly common, but unlikely to be the panacea for solving East Renfrewshire's transport problems. Financing the necessary infrastructure to facilitate a transition to alternative fuels remain key issues. • **Shared Mobility:** Car Clubs / car sharing offer a simple form of Shared Mobility which could be applied within the East Renfrewshire area, with opportunities for a future regional shared mobility framework for micro-mobility and community transport. This may address high (and increasing) rates of car ownership and use. • **MaaS:** Any intervention is likely to form part of a wider Glasgow or SPT based on a wider range of public transport and mobility solutions. This can improve the accessibility and integration of transport / mobility services in the future. • **Automation**: Although relevant legislation is beyond the Council's remit, the impacts and benefits of automation upon the local urban environment should still be considered.
Travel Behaviour Change	Historical trends of reduced trips have been accelerated by the COVID-19 pandemic. The issue for East Renfrewshire is how these trends will manifest into permanent behavioural patterns / impact the transport system and wider urban environment.
Legislative Change	The implementation of LEZs, WPLs and changes to parking policy will affect the operation of East Renfrewshire's transport system. Reducing reliance on private car and promoting sustainable transport options for everyday trips will limit the impact these changes on local communities.

9.6.2 Overall, East Renfrewshire will be subject to a wide range of factors which will alter how people interact with its transport system.

10 Problems, Issues, Constraints & Opportunities

10.1 Transport Problems Framework

10.1.1 Every STAG-based project starts from a set of transport problems and, to a lesser extent, transport opportunities. As well as problems experienced by the user the "analysis should ... explore the root causes and consequences of problems".

10.1.2 To be meaningful, transport problems which the LTS aims to address must reflect the problems which are faced in everyday journeys by individuals, organisations, and businesses in the East Renfrewshire area. Furthermore, these problems should be evidenced where possible and defined by a series of metrics of key performance indicators (KPIs) using the evidence base set out in this Case for Change, the Equalities Impact Assessment Scoping and Strategic Environmental Assessment Scoping. These KPIs should then in turn form the basis of the subsequent Monitoring & Evaluation Framework.

10.1.3 From a user perspective, these transport problems will impact a wide range of individuals and groups – including those with protected characteristics. In theory, this means that there are a countless number of problems which a user could face. Nevertheless, the main problems are likely to be related to a relatively small number of parameters which define any travel. These include:

- cost of travel (especially relative to disposable income)
- lack of public transport connectivity
- personal security / safety
- physical accessibility of services
- punctuality of travel (public transport punctuality / congestion making road-based journey times unreliable)
- quality and comfort of journey
- reliability of travel (cancellation of public transport services)
- requirement for excessive interchange
- travel time (relative to other modes)

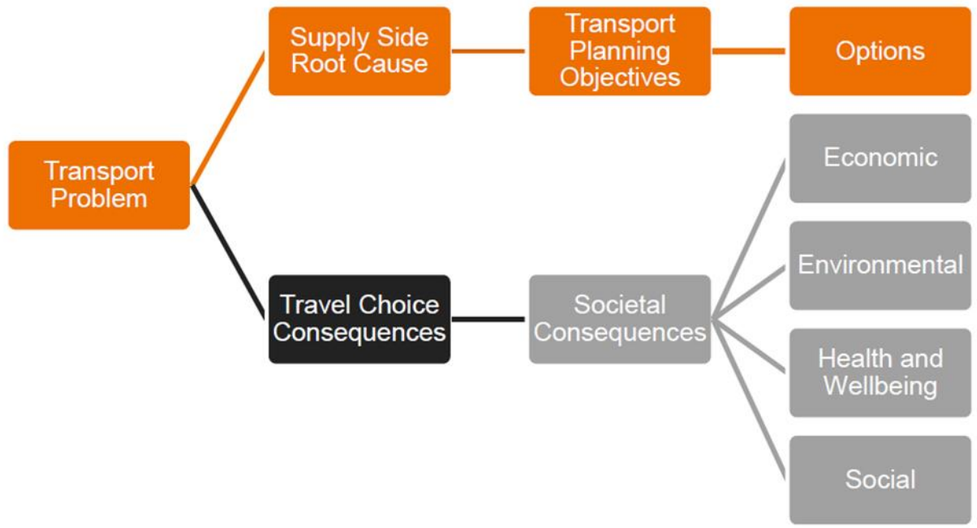
10.1.4 It should be noted that problems which exist outside of these parameters would still be included within the Problems Framework below. Transport problems as experienced by the user:

- can usually be traced back to a root cause, associated with the transport supply-side which in subsequently informs the identification of Transport Planning Objectives (and at a later stage, options)
- can have a travel choice consequence – e.g. use of less sustainable modes, journeys not being made
- can have a wider societal consequence – e.g. economic (e.g. 'wasted time'), environmental (e.g. emissions), health & wellbeing (e.g. reduced levels of physical activity), social (e.g. exclusion from employment opportunities)

10.2 Applying the Framework

10.2.1 This framework has been used as the basis for setting out the transport problems. For each problem identified, root causes have been defined along with the travel choice implications and the societal consequences of these travel choices. The evidence that underpins the problem has then been set out followed by an indication of the linked Transport Planning Objective(s) (TPOs) to resolve it. At a later stage, options will be generated to deliver the TPOs.

Figure 70: Transport Problems Framework



10.2.2 Transport problems within the framework have been broken down into the following categories which broadly align with the National Transport Strategy's sustainable travel hierarchy:

- Active Travel
- Public Transport
- Freight & Car

10.3 Problems

10.3.1 This section outlines the problems that have been identified based on transport mode, as well as an overview of supporting evidence as set out in preceding chapters.

Active Travel

10.3.2 East Renfrewshire's lower-than-average active travel modal share suggests the area lacks the means to support a significant increase in active journeys. Although this may be explained in part by low density suburban character and relatively large travel distances to access key destinations, evidence suggests that the majority of journeys in the area are below 5km. Low rates of active travel therefore reflect other influences. This includes material factors (such as quality of infrastructure, access to car etc) and, to lesser extents, weather and topography. Key problems also include individual and social factors such as road safety concerns, lifestyle (i.e. the need for individuals to undertake multi-trip journeys), but also ingrained societal norms regarding the 'best' mode of transport. This supports widely held perceptions regarding the unviability and impracticality of walking and cycling as a mode of transportation.

10.3.3 Notwithstanding, rates of walking to school are above regional and national averages and continue to increase over time. Furthermore, community feedback strongly supports the notion that improved infrastructure, as well as ongoing behaviour change promotion and incentives, would support increased walking and cycling participation in communities. Interestingly however, this does not appear sufficient for individual respondents to change their travel behaviour. This suggests strong ingrained travel habits influencing behaviours.

10.3.4 Community feedback suggests key barriers to more active travel includes poor maintenance and management of existing active travel assets (i.e. footways and footpaths), lack of high quality active travel links and neighbourhood level traffic management (particularly around schools) as well as wider road safety / road danger concerns stemming from 'unrestrained car use'.

1 - Active travel perceived as an inconvenient and unattractive mode of transport, unviable for everyday journeys

2 –Quality of existing active travel networks

3 – Lack of infrastructure for more journeys to be made by active means

4 – Integration of active travel with public transport journeys, particularly around 'first & last mile' problems

5 – Legacy infrastructure; contemporary road network designed to manage conveyance of vehicles rather than active travel users

6 – Road safety concerns

Public Transport

10.3.5 A review of previous public consultation suggests that public transport in East Renfrewshire is generally perceived as unreliable and inflexible when compared to private car transport. In addition, poor integration between different public transport modes and operators is an issue impacting the convenience, attractiveness and affordability of public transport.

10.3.6 Analysis of the region's bus network showed that overall service frequency was low between urban and rural areas of the authority and region. Furthermore, apart from the A77, other arterial north-south corridors in the east of the authority only showed increased bus services frequency towards the northern extent of the local authority boundary, reflecting services to and from Glasgow. To the west of the authority, a concentration of frequency exists along the B771 corridor towards Paisley, but not north-east towards Glasgow. Minimal service provision exists along the main east-west orbital corridors.

10.3.7 Analysis highlighted the lack of connectivity between the eastern and western parts of East Renfrewshire, with most of these journeys requiring at least one interchange to reach their destination. Uplawmoor in particular was shown to possess significant public transport connectivity issues. This, together with low service frequency and longer journey times, indicates issues of severance for east-west movements and residents wishing to access key services.

10.3.8 Bus journey time reliability analysis along the region's main corridors highlighted how AM bus journey times into Glasgow are significantly more disrupted than other trips, with the inverse trips experiencing relatively little disruption (and thus being more reliable). Similar findings were also apparent when examining average bus speeds within the region. Issues such as journey time reliability and service coverage, as well as poor public perceptions, makes bus provision an unattractive mode of transport. Increasing car usage further exacerbates bus reliability, operating costs, and therefore, ability to achieve national vehicle reduction targets and net zero ambitions.

10.3.9 Analysis presented in Section 8 highlights various issues and disparities in terms of public transport connectivity health services, education, employment and major retail centres. Overall, despite the relative affluence of the area, pockets of East Renfrewshire's population face issues in both accessing the public transport system and using it to reach employment, education, and other key service destinations. Specific examples include low frequency of service provision along the A727 Rouken Glen Road, which results in poor links to key destinations along this corridor (such as Eastwood Health Centre and Eastwood Park). Furthermore, despite the Queen Elizabeth II hospital witnessing the greatest number of admissions from East Renfrewshire compared to other hospitals, connectivity by public transport is particularly poor, with no direct routing resulting in numerous interchanges being required.

10.3.10 Accessing the transport system can also be a challenge for some. Catchment analysis of the region's public transport infrastructure found that only 43% of the region's urban population were within walking distance of East Renfrewshire's train stations. Although this figure more than doubled (86%) for bus stop accessibility, analysis highlighted how most of these stops were on low service frequency corridors – indicating high levels of accessibility, but poor levels of connectivity. Overall, the findings showed that accessibility blackspots exist on the peripheral edges of the region's urban centres, with these areas being more susceptible to car dependency and connectivity issues.

10.3.11 The above connectivity / accessibility problems are most keenly felt by East Renfrewshire residents who live with a long-term limiting physical or mental health condition and other vulnerable groups (e.g. elderly population and those living on low-incomes). A review of Community Transport provision highlights how service provision is currently fragmented across organisations, impacting the effectiveness of available transport assets and services. Stakeholder engagement raised issues regarding maintaining current levels of provision and the impact of rising demand on future services (especially pertinent for East Renfrewshire's growing elderly population).

10.3.12 Analysis of the region's fare structures highlights a 'two-tier' fare structure within East Renfrewshire, with residents in the west of the authority paying more for a similar level of bus service provision compared to those in the east. Higher fare prices are also located within more socially deprived areas of the region that are less likely to own (or have access to) a car and less likely to experience good transport connectivity, thus widening existing inequalities within East Renfrewshire.

7 - Public transport seen as unreliable, inflexible and unattractive mode of transport

8 –Deficiency of bus services connecting settlements within East Renfrewshire, particularly east-west connectivity

9 – Integration between different transport modes

10 – Higher fares for residents and lower levels of public transport connectivity in more deprived areas

11 – Bus journey time reliability on key routes within East Renfrewshire

12 – Poor connectivity to healthcare services, tertiary education and major retail centres within areas of East Renfrewshire, with a need for frequent interchange between services

13 –Accessibility of public transport services, particularly peripheral areas of East Renfrewshire

Car & Freight

10.3.13 East Renfrewshire's strategic road network has expanded over the past twenty years, including completion of the M77 motorway and development of the A726 Glasgow Southern Orbital (replacing the former A77 and A727 urban trunk routes).

10.3.14 Overall, year on year growth in traffic has continued. Traffic estimates suggest that growth on trunk routes is higher than local roads, with the later experiencing a reduction in traffic between 2009 and 2019. Although traffic modelling undertaken before the COVID-19 pandemic suggests that distance travelled by car will continue to increase over the coming decades, this does not consider changing travel behaviours and post-COVID traffic patterns. Historically, there has been a long-term trend of people making fewer trips and travelling less distance per year, which has been offset by increasing population and driver mode share.

10.3.15 A key area of growth is the increase in light goods vehicles operating within East Renfrewshire, indicating an increased demand for goods associated growing popularity of online shopping and associated home delivery services. Although this may act to consolidate and reduce shopping trips, thereby reducing overall traffic demand, an increase in delivery traffic and kerbside pressures represents a road network management issue.

10.3.16 Analysis suggests low travel speeds along many of East Renfrewshire's primary and distributor routes, resulting in slow and / or unreliable journeys at peak times. Notwithstanding, national policy recognises that, to maximise the efficiency of the existing network, a reduction in travel demand and a shift to more sustainable modes of transport is required. As a result, the focus on expanding road capacity to meet growing demand has shifted towards encouraging less use of cars and supporting more space efficient modes in order to increase the overall capacity of the road network.

10.3.17 Overall the condition of ERC managed roads since 2010 has gradually improved. This reflects ongoing investment in roads assets, however, highlights that a significant proportion of roads are still classified as red / amber, require repair and resultant capital investment over coming decades. The impacts of severe

weather events arising from climate change, as well as increasing car ownership and usage, is likely to increase maintenance requirements.

10.3.18 Car ownership and usage is above regional averages, with the majority of journeys being made by car (or van). This illustrates high levels of car dependency and a general imbalance in terms of transport priorities within the area. In response, efforts are needed to rebalance the transport system to better reflect the sustainable travel hierarchy – prioritising active travel and public transport - as defined across wider policy objectives.

10.3.19 Analysis highlighted that parking policy within East Renfrewshire requires review. Qualitative evidence suggesting a lack of parking space turnover, particularly within urban centres and adjoining rail provision. Furthermore, limitations with East Renfrewshire's EV charging infrastructure suggests these two issues would need to be reconciled to the enable mass transition to EVs, achievement of net zero ambitions and ensure sustainable management of parking demand and roads assets.

14 – Continued traffic growth, resulting in slow and unreliable journey times on key routes

15 - Requirement for ongoing investment to support Roads asset maintenance

16 - High car ownership and usage impacting travel demand and shift to more sustainable transport options

17 – Parking capacity constraints within urban areas, including Park & Ride locations

18 – Public EV charging infrastructure provision limited and unreliable

10.4 Problem Summary

10.4.1 Drawing on the Transport Problems Framework set out at the beginning of the chapter, the identified problems have been summarised in Table 30.

Table 30: Transport Problems Framework Summary

No	Transport Problem (from a User's Perspective)	Supply Side Cause of Transport Problem	Travel Consequences	Societal Consequences	evidence (Section)
ACTIVE TRAVEL					
1	Active travel perceived as an inconvenient and unattractive mode of transport, unviable for everyday journeys	- Lack of high quality active travel networks within East Renfrewshire linking the places people live with key local destinations - Service and employment destinations located outside of East Renfrewshire - Land use patterns; influence on mobility choices and travel time - Societal and cultural norms - Time pressures and other work / lifestyle demands encouraging car use	- Impact on travel choices, including increased reliance on car, even for short journeys - Reduction in public transport accessibility and usage - Increased pressure on park and ride facilities - Journeys not being made or made by car rather than by active means	- Impacts on health and wellbeing - Increased road danger / emissions / climate change impacts - Increased transport poverty pressures - Impacts on personal safety - Reduced travel options	3.5 4.2 4.3 5.3 5.5
2	Quality of existing active travel networks	- Management and maintenance of existing active travel network, such as footways, paths and lanes. - Poor design (width, surfacing, lighting etc)			4.3.3 5.2
3	Lack of infrastructure for more journeys to be made by active means	- Absence of infrastructure needed for more journeys to be made by active travel, such as protected cycle ways - Absence of foot & cycle networks within and between town & villages, linking people with key services, facilities and amenities.	- Greater subjective safety and personal security concerns	- Community severance and social isolation	4.2 4.3
4	Integration of active travel with public transport journeys, particularly around 'first & last mile' problems	- Train stations are not within walking distance of high population density - Lack of high quality and secure active travel facilities at main travel hubs - Issues with accessing boarding public transport with mobility aids, including cycles			5.2 6.6 8.2
5	Legacy infrastructure; contemporary road network designed to manage conveyance of vehicles rather than active travel users	- Priorities and investment favour existing road infrastructure assets. Under investment in active travel and public transport infrastructure			7.2 7.3
6	Road safety concerns	- Increase in car ownership and car journeys impacting road safety / danger and condition of road network. Does not create an enabling environment of encourage more active journeys. - Increasing demand for traffic management, particularly nearby schools (i.e. resulting from poor parking behaviour or traffic speed / volume) - Legacy design issues around junctions, crossings and other areas of potential conflict			4.3 3.5 7.4 7.7
PUBLIC TRANSPORT					
7	Public transport seen as unreliable, inflexible and unattractive mode of transport	- Overall attractiveness of public transport provision compared to private car - Accessibility - Poor integration between different services and providers (running services in their own respective areas, thus limiting scope for integration)	- Impact on mobility choices, including increased reliance on car - Further discourage public transport use	- Reduction in public transport usage - Reduction on public transport service level provision	3.5 4.2 4.3

No	Transport Problem (from a User's Perspective)	Supply Side Cause of Transport Problem	Travel Consequences	Societal Consequences	evidence (Section)
		- Low service frequency and connectivity (except A77 corridor to the north of area) - Affordability concerns - Long distances to public transport stops and stations	with subsequent reduction in service frequencies and increased fares - Financial viability of future public transport services - Increased need for subsidised services - Increased demand / pressure on community transport providers - Discourages people from travelling in peak periods, or at all - Limit ability for people to access wider public transport networks - Reliance on car to facilitate access to public transport network (with increased pressure on park and ride facilities)	- Increased social isolation and severance across communities, particularly for more vulnerable demographics - Reduced travel options - Increased road danger / emissions / climate change impacts - transport poverty impacts - Negative impacts on health and wellbeing - Greater impacts on household incomes - Reduced economic performance of the area	
8	Deficiency of bus services connecting settlements within East Renfrewshire, particularly east-west connectivity	- Bus predominantly serves key north-south routes, however, lack of east-west services - Low frequency of service provision along A727 Rouken Glen Road - No direct public transport routes between settlements, resulting in interchanges - Lack of bus services through Dams to Darnley Country Park connecting Barrhead & Newton Mearns. - Poor public transport connectivity in outlying areas of the authority - M77 acts as a barrier between east and west movement			6.2 6.7
9	Integration between different transport modes	- Variable fare / ticketing structures across different services / operators in area (i.e. rail fares cost more for locations situated further from Glasgow. Bus fares in west higher than east) - Train Park & Ride facilities have limited or no capacity - No Bus Park & Ride sites within East Renfrewshire			6.5 6.6 6.7
10	Higher fares for residents and lower levels of public transport connectivity in more deprived areas	- Poor public transport accessibility in more deprived areas. - Poor integration of services - Affordability concerns - Confusing ticketing / fare structures across different operators			8.4
11	Bus journey time reliability on key routes within East Renfrewshire	- Variability in travel time impacting bus reliability, particularly at peak times on key road corridors - Increasing car use impacting bus services			6.3 6.4
12	Poor connectivity to	- Lack of east-west public transport services			8.5

No	Transport Problem (from a User's Perspective)	Supply Side Cause of Transport Problem	Travel Consequences	Societal Consequences	evidence (Section)
	healthcare services, tertiary education and major retail centres within areas of East Renfrewshire, with a need for frequent interchange between services	- No direct public transport routes resulting in numerous interchanges being required - Long distances to public transport stops and stations - Ageing population require more visits to health centres			
13	Accessibility of public transport services, particularly peripheral areas of East Renfrewshire	- Land use & development - Long distances on foot to public transport stops and stations - Low service frequency			6.2 6.6 8.5
CAR & FREIGHT					
14	Continued traffic growth, resulting in slow and unreliable journey times on key routes	- Low average speeds on key road corridors / motorway distributors and junctions, the later indicating elements of queuing and congestion. - Low speed observations concentrated in the north of the local authority area, in both directions. - Significant variability between peak and non-peak traffic - Ongoing population growth, car usage and associated pressures on the road network, resulting in increased maintenance costs and traffic management measures	- Slow and unreliable journey times - Increased local congestion - Increased driver frustration - Increased 'cut through' traffic on residential streets - Poor sustainable transport outcomes (if other travel options become less feasible or attractive as a result) - Journeys not made at all - Increased obstructions of foot & cycle ways - Increased local parking pressures and	- Increased road danger / emissions / climate change impacts and other externalities associated with increased vehicle use - Increased vehicle ownership; associated impacts on personal finances - Wider community impacts including severance, social isolation and competing space demands (i.e. for parking) - Increased road danger impacting actual and subjective road safety	3.2 6.4 7.4
15	Requirement for ongoing investment to support roads asset maintenance	- Ongoing population growth, car usage and associated pressures on the road network, resulting in increased maintenance costs and traffic management measures - Prioritisation of 'cars first' local transport investment at the detriment of demand management and mode shift			3.2 7.3 7.4
16	High car ownership and usage impacting travel demand and shift to more sustainable	- Impacts on efficiency and overall sustainability of the road network - Greater travel time variability in future - Supress uptake of more sustainable modes of transport and future mode shift			3.5 6.4 3.5

No	Transport Problem (from a User's Perspective)	Supply Side Cause of Transport Problem	Travel Consequences	Societal Consequences	evidence (Section)
	transport options	- Encourage more travel, particularly for everyday local journeys that may otherwise be taken by more sustainable transport options.	vehicle circulating time to find parking spaces - Impacts on people's travel choices, favouring locations with more convenient parking - Supress transition from ICE to EV	- Increased vehicle movements impacting road condition and maintenance - Loss of productive time / economic impacts - Impact on economic activity and town centre vitality - Regulatory changes around ICE vehicles to EV, disproportionately impact certain groups (e.g. those who live in flats)	
17	Parking capacity constraints within urban areas, including Park & Ride locations	- Poor parking turnover, particularly in urban areas with rail provision. - Inadequate supply of time-limited on-street parking within urban centres - Lack of parking restrictions / interventions - Local economic centres less attractive / competitive. - Train Park & Ride facilities have limited or no capacity			6.5 7.5
18	Public EV charging infrastructure provision limited and unreliable	- Inadequate supply of public EV charging infrastructure - Reliability of public EV charge points - Impact on consumer confidence to enable switch from ICE vehciles to EV - Sustainability of current EV charge point management / maintenance			7.6

10.4.2 Overall, an overarching problem is the negative societal, environmental and economic consequences of people not being able to utilise sustainable transport options to access everyday services and facilities, such as employment, education and health provision. High levels of ICE car usage also presents in terms of wider net zero, sustainability and equality objectives. On this basis, considering social inclusion while responding to the Climate Emergency are fundamental matters which should be addressed through the new LTS.

10.5 Issues

10.5.1 The Future Context (Section 9) outlined a variety of factors which will influence East Renfrewshire's transport system and ways people move around. The impacts of changes will have implications for the development of the new LTS and are therefore considered as part of the strategy development process.

Travel Behaviour Change

10.5.2 The COVID-19 pandemic has accelerated a number of long-term travel behaviour change trends including increased working from home, more online shopping, reduced trip making, decline in bus use and increased car use. In addition, it has also stimulated new travel behaviours including a decline in the previously growing train patronage and increases in walking and cycling as illustrated in Figure 71. It is unknown the extent to which these changes will become embedded long-term, but, at the very least, it is likely to take time for travel patterns to stabilise.

10.5.3 Peak period commuting could be particularly affected if there is a permanent shift to increased home and flexible working as seems likely, potentially leading to less strain on public transport services and less congestion on the road network at these times. Conversely, an apprehension of viral transmission on public transport, increased preference for private vehicle for commuting and an increase in discretionary car journeys (both within and outwith the local area) may result in a net-increase in car use overall. It is also unclear how public transport demand will recover in the wake of the pandemic and how this will affect future service provision and funding.

10.5.4 The extent to which long term walking and cycling travel habits have been affected by the COVID pandemic are unknown. Although there was an increase in leisure based walking and cycling trips between 2020-2021, there is no evidence to suggest a corresponding increase in everyday active travel journeys for utility purposes. This indicates wider challenges for the planning and operational delivery of 20-minute neighbourhoods, facilitating a transition from car-based design and wider societal travel behaviour change.

Figure 71: Overview of COVID-19 Impacts

Transport Innovation

10.5.5 Innovations in transport and technology could radically alter the landscape within which East Renfrewshire's transport system operates. The mass transition to EVs and alternative fuel sources requires considerable investment and represents a significant delivery challenges. In many instances, wider adaptation of micro-mobility options such as e-bikes and general modal shift away from private cars would represent a better and more sustainable solution in order to avoid exacerbating problems associated with the already high car modal share.

10.5.6 In the short term, the introduction of shared mobility and MaaS will break traditional ownership models and shift transport to an integrated 'on demand' service across all modes, affecting how people interact with the local transport system. Longer term, the potential automation of the transport network may also unlock various scenarios. These innovations are to varying extents market led and it is therefore difficult for the public sector to control, which presents an uncertainty for the LTS. However, it can provide a policy context that seeks to ensure innovations evolve in a manner that is consistent with policy aspirations.

Legislative Changes

10.5.7 The Transport (Scotland) Act 2019 empowers Local Authorities to introduce a vast array of interventions to help achieve national policy ambitions and manage their own local transport system. Although, the effects of the most significant interventions – Low Emission Zones (LEZs) and Workplace Parking Licensing (WPL) – will not stop at each local authority boundary. Instead, the ramifications of these mechanisms will be felt throughout local regions and most keenly impact neighbouring authorities and their populations' respective travel behaviours. For East Renfrewshire, Glasgow City Council's introduction of a LEZ and potential roll out of a WPL scheme will dramatically impact local travel habits, resulting in the LTS needing to set a policy landscape to both adapt and complement these changes.

10.5.8 Furthermore, the Act's nationwide ban on pavement parking may also disrupt local travel behaviour and result in the need for traffic management interventions within constrained residential areas and urban centres.

Future Population Change

10.5.9 As outlined in Section 3.2, East Renfrewshire's population is expanding largely due to inward migration, putting pressures on already strained local services. Furthermore, the Dependency Ratio of the area's

population is set to rise over the coming years, with those aged under 16 or over 65 set to represent a considerable proportion of the population.

10.5.10 The increasing number of Dependent Individuals will have knock on affects upon local service provision. Specifically, the rising number of young people will put pressures upon the area's school system (see para 3.3.3). Possible scenarios include pupils living in areas with limited school provision may have to travel further distances to access education, placing additional pressure on constrained school transport services and /or having additional impacts upon local transport networks.

10.5.11 Furthermore, with an aging population requiring more visits to health services, the rising number of those aged over 65 may have a significant impact on local transport provision. Specifically, impacts on Community Transport services within the local authority, potentially leading to these services becoming oversubscribed in the coming years.

10.5.12 Consequently, the LTS should focus upon negating the negative impacts of these population changes and establish a policy landscape which could respond to the above challenges.

10.6 Constraints

10.6.1 Constraints are external factors which the LTS has limited or no control over. As such, the policy landscape which the LTS creates cannot change the impact of the below factors. Consequently, the LTS must adapt to the below constraints to minimise their impacts on the local transport system.

Concessionary Travel Funding

10.6.2 As highlighted above, East Renfrewshire will experience significant growth in its dependant populations. This will have implications for the provision of Concessionary Travel, with budgets consequently expected to come under increasing pressure.

10.6.3 The constrained funding available for Concessionary Travel at national and regional levels may lead to bus operators getting lower and lower returns for each journey being undertaken using a Concessionary Travel Pass. This could put additional financial pressures on already struggling services leading to some underperforming routes to be withdrawn.

10.6.4 Additionally, the under-22s free bus travel scheme (launched on 31 January 2022) may also pose similar problems. Although, the availability of free bus travel could remove financial barriers to accessing the transport system, and thus provide deprived sections of East Renfrewshire's population with access to the transport system and subsequent connectivity to education, employment, and leisure destinations.

Financing

10.6.5 Future budget constraints mean that there is likely to be a significant gap in terms of available funding and service delivery. As a result, there may not be the available internal funding / resources to both create – and maintain – future interventions. Instead, the Council may have to look to other funding streams and revenue generating options to fund potential options arising from the LTS.

10.7 Opportunities

10.7.1 The LTS is being developed during a time of change, with the impacts of the COVID-19 pandemic and wider social and policy shifts resulting in changes to travel patterns and a mandate to prioritise more sustainable transport systems. Consequently, some of the above issues can also be viewed as opportunities in order to transform local transport provision and future development within the area to align with wider policy goals.

Travel Behaviour Change

10.7.2 Section 9.4 outlined how the impacts of COVID-19 may fundamentally alter long-term travel behaviour. In particular, the increased prevalence of homeworking may radically redefine commuting patterns and result in the potential reallocation of trips from major regional centres to more local urban areas.

10.7.3 As Sections 3.5 and 9.4 highlights, East Renfrewshire possesses a high number of skilled workers who travel outside of the local boundary area. Most of these jobs are not location specific and can be performed at home. This reduction in people leaving East Renfrewshire could provide economic opportunities for the area; specifically, a chance to reduce the level of economic leakage from the area which previously occurred from the high levels of outward commuting, shifting footfall to local businesses within East Renfrewshire and generating economic gains for the area.

10.7.4 Specifically, the increased number of people staying within East Renfrewshire provides the foundation to support 20-minute neighbourhood aspirations and support better local living in addition to national car kilometre reduction targets.

Project & Policy Linkages

10.7.5 The LTS is being developed at time when significant national, regional, and local policy proposals are being brought forward. At a local scale, Glasgow City Council's Local Transport Strategy and draft Active Travel Strategy, will redefine transport priorities and cross-boundary movements between the two areas. At a regional scale, the upcoming Regional Transport Strategy (and follow-on strategies / initiatives) for the region will influence connectivity and accessibility across Strathclyde. Finally at the national level, interventions contained within the draft STPR2 and NPF4 documents offer the potential to fundamentally alter transport across Scotland, transition away from car based design and deliver net zero ambitions.

10.7.6 Overall, the LTS can embrace all these opportunities to help East Renfrewshire achieve wider environmental, social and economic goals and influence future capital plans and programmes in the area.

11 Transport Planning Objectives

11.1 Defining Transport Planning Objectives

11.1.1 Preliminary Transport Planning Objectives (TPOs) have been derived by identifying a TPO linked to each of the problems defined in the Problems Framework initially set out in Chapter 10.4. The TPOs along with the associated problems are set out in Table 31 articulated in general terms indicating the desired direction of change as opposed to specific outcomes.

Table 31: Problems Framework including TPOs

No.	Transport Problem (from a User's Perspective)	Supply Side Cause of Transport Problem	Proposed Transport Planning Objective
ACTIVE TRAVEL			
1	Active travel perceived as an inconvenient and unattractive mode of transport, unviable for everyday journeys	- Lack of high quality active travel networks within East Renfrewshire linking the places people live with key local destinations - Service and employment destinations located outside of East Renfrewshire - Land use patterns; influence on mobility choices and travel time - Societal and cultural norms - Time pressures and other work / lifestyle demands encouraging car use	**Improve attractiveness of active travel as an everyday mode of transport for local journeys**
2	Quality of existing active travel networks	- Management and maintenance of existing active travel network, such as footways, paths and lanes. - Poor design (width, surfacing, lighting etc)	**Enhance quality and connectivity of active networks for all ages and abilities**
3	Lack of infrastructure for more journeys to be made by active means	- Absence of infrastructure needed for more journeys to be made by active travel, such as protected cycle ways - Absence of foot & cycle networks within and between town & villages	**Development of new infrastructure where required in order to facilitate more active journeys**
4	Integration of active travel with public transport journeys, particularly around 'first & last mile' problems	- Train stations are not within walking distance of high population density - Lack of high quality and secure active travel facilities at main travel hubs - Issues with boarding public transport with mobility aids, including cycles	**Support improved integration between active travel and public transport modes**
5	Legacy infrastructure; contemporary road network designed to manage conveyance of vehicles rather than active travel users	- Priorities and investment favour existing road infrastructure assets / under investment in active travel and public transport infrastructure	**Facilitate a transition from car-based design in order to support wider place and wellbeing outcomes**
6	Road safety concerns	- Increase in car ownership and car journeys impacting road safety and condition of road network - Increasing demand for traffic management, particularly nearby schools (i.e. resulting from poor parking behaviour or traffic speed / volume) - Legacy design issues around junctions, crossings and other areas of potential conflict	**Reduce road danger and improve overall quality of urban environment.**
PUBLIC TRANSPORT			
7	Public transport seen as unreliable, inflexible and unattractive mode of transport	- Overall attractiveness of public transport provision compared to private car - Accessibility - Poor integration between different services and providers (running services in their own respective areas, thus limiting scope for integration) - Low service frequency and connectivity (except A77 corridor to the north of area) - Affordability concerns - Long distances to public transport stops and stations	**Improve attractiveness of public transport provision and overall quality of services.**
8	Deficiency of bus services connecting settlements within East Renfrewshire, particularly east-west connectivity	- Bus predominantly serves key north-south routes, however, lack of east-west services - Low frequency of service provision along A727 Rouken Glen Road - No direct public transport routes between settlements, resulting in interchanges - Lack of bus services through Dams to Darnley Country Park due to bridge-based height restrictions on Aurs Road - Poor public transport connectivity in outlying areas of the authority - M77 acts as a barrier between east and west movement	**Improve east-west public transport connectivity**

No.	Transport Problem (from a User's Perspective)	Supply Side Cause of Transport Problem	Proposed Transport Planning Objective
9	Integration between different transport modes	- Variable fare / ticketing structures across different services / operators in area (i.e. rail fares cost more for locations situated further from Glasgow. Bus fares in west higher than east) - Train Park & Ride facilities have limited or no capacity - No Bus Park & Ride sites within East Renfrewshire	**Support improved public transport integration between operators**
10	Higher fares for residents and lower levels of public transport connectivity in more deprived areas	- Poor public transport accessibility in more deprived areas. - Poor integration of services - Affordability concerns - Confusing ticketing / fare structures across different operators	**Deliver a simplified fare structures to ensure public transport provision is affordable and equitable**
11	Bus journey time reliability on key routes within East Renfrewshire	- Variability in travel time impacting bus reliability, particularly at peak times on key road corridors - Increasing car use impacting bus services	**Improve the speed and reliability of bus journey times**
12	Poor connectivity to healthcare services, tertiary education and major retail centres within areas of East Renfrewshire, with a need for frequent interchange between services	- Lack of east-west public transport services - No direct public transport routes resulting in numerous interchanges being required - Long distances to public transport stops and stations - Ageing population require more visits to health centres	**Enhance public transport service connectivity between settlements and essential services**
13	Accessibility of public transport services, particularly peripheral areas of East Renfrewshire	- Land use & development - Long distances on foot to public transport stops and stations - Low service frequency	**Improve the coverage and convenience of public and community transport services**
CAR & FREIGHT			
14	Continued traffic growth, resulting in slow and unreliable journey times on key routes	- Low average speeds on key road corridors / motorway distributors and junctions, the later indicating elements of queuing and congestion. - Low speed observations concentrated in the north of the local authority area, in both directions.	**Reduce car usage to improve attractiveness and reliability of sustainable transport modes**
		- Significant variability between peak and non-peak traffic - Ongoing population growth, car usage and associated pressures on the road network, resulting in increased maintenance costs and traffic management measures	
15	Requirement for ongoing investment to support roads asset maintenance	- Ongoing population growth, car usage and associated pressures on the road network, resulting in increased maintenance costs and traffic management measures - Prioritisation of 'cars first' local transport investment at the detriment of demand management and mode shift	**Promote sustainable management of local transport networks to support wider place and wellbeing outcomes**
16	High car ownership and usage impacting travel demand and shift to more sustainable transport options	- Impacts on efficiency and overall sustainability of the road network - Greater travel time variability in future - Supress uptake of more sustainable modes of transport and future mode shift - Encourage more travel, particularly for everyday local journeys that may otherwise be taken by more sustainable transport options.	**Manage transport demand and enhance sustainable transport options in order to reduce car dependency**
17	Parking capacity constraints within urban areas, including Park & Ride locations	- Poor parking turnover, particularly in urban areas with rail provision. - Inadequate supply of time-limited on-street parking within urban centres - Lack of parking restrictions / interventions - Local economic centres less attractive / competitive. - Train Park & Ride facilities have limited or no capacity	**Increase parking turnover within urban centres**
18	Public EV charging infrastructure provision limited and unreliable	- Inadequate supply of public EV charging infrastructure - Reliability of public EV charge points - Impact on consumer confidence to enable switch from ICE vehciles to EV - Sustainability of current EV charge point management / maintenance	**Enhance coverage and reliability of electric vehicle charging infrastructure**

12 Next Steps

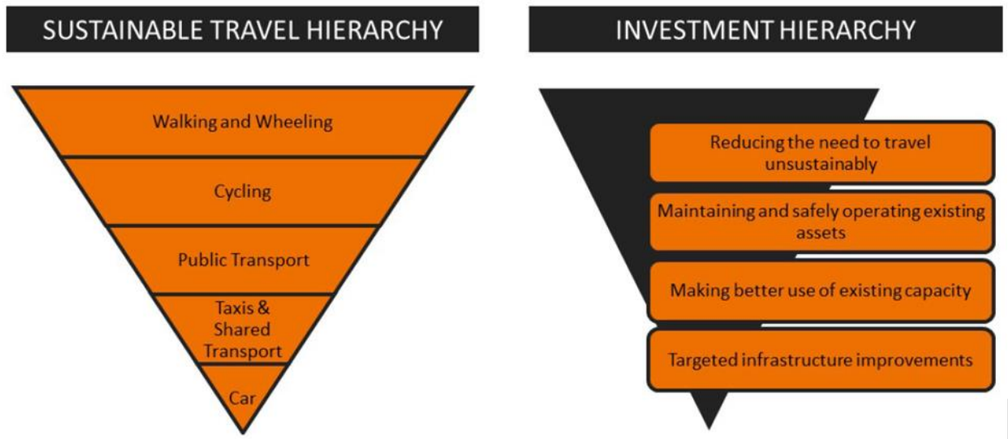
12.1.1 The purpose of a Case for Change Report is to set out the problems which currently exist within a study area and to provide a foundation from which future interventions can be developed and subsequently appraised. Option generation, sifting, development and appraisal will form the next stage of the process.

12.2 Option Development

12.2.1 Initial option generation should draw upon problems outlined in the Problems Framework set out in Section 10.4 and built upon through the development of the Transport Planning Objectives in Section 11.1. Option generation should demonstrate a clear linkage between problems and TPOs. Option generation can be informed by a combination of factors including stakeholder consultation and internal workshops.

12.2.2 This initial long list of options should be considered in the context of the Sustainable Travel Hierarchy and Investment Hierarchy defined in National Transport Strategy 2. These are illustrated in Figure 72.

Figure 72: National Transport Strategy Hierarchies



12.2.3 Options can typically be classified into three types:

- **policy measures**: guiding legal and regulatory matters, and perhaps steering the types of capital and revenue measures which may be appropriate to specific policies.
- **capital measures**: for the construction of new infrastructure 'on the ground', either physical or technical. These tend to be one off investments.
- **revenue measures**: spending to support services or initiatives, e.g. maintenance, bus services, promotional campaigns etc. which is often ongoing on an annual basis.

12.3 Option Appraisal

12.3.1 The nature of the appraisal should be suitably high level given the focus is on developing a new LTS rather than on individual interventions. Consequently, a two staged process of a Preliminary Option Appraisal and then Detailed Option Appraisal may not be required. Instead, a singular enhanced Preliminary Options Appraisal may be more appropriate.

12.3.2 Although, the consolidated list of transport options will still need to be appraised against the LTS objectives and the STAG criteria. Consistent with the Preliminary Options Appraisal, this appraisal should be mostly qualitative.

12.3.3 As well as an appraisal against the TPOs and the STAG criteria, this task should also map out how the options which perform well may be grouped / mapped into a meaningful LTS structure. In this way the Draft LTS structure would be developed in parallel with this process which will also be informed by the Strategy Objectives outlined in the following section.

12.3.4 Finally, public consultation and stakeholder engagement exercises would need to be undertaken throughout this process to ensure that community and stakeholders have the opportunity to have a say in the development of the LTS and its constituent interventions.

12.4 Strategy Objectives

12.4.1 The next stage of the LTS development also requires consideration of the structure of the strategy itself and how the problems, issues, constraints, and opportunities set out in this Case for Change will be taken forward into the new LTS.

12.4.2 As an initial step, a set of five Strategy Objectives closely linked to the TPOs have been developed. These seek to aggregate some of the themes from the TPOs and provide a more concise structure within which the LTS can begin to be developed. In particular, 18 TPOs would be excessive for the strategy itself. Instead, these would act as the foundation for more high-level strategic objectives.

12.4.3 The proposed strategy objectives are outlined below along with why each is relevant, how it could be achieved and the metrics that could be used for monitoring and evaluation. The latter would enable the TPOs to eventually be made SMART (Specific, Measurable, Attainable, Relevant, Timed) in line with the requirements of STAG.

Strategy Objective 1: Reduce carbon emissions and other harmful pollutants

Transition towards a net zero carbon transport system

Problems Addressed

- Slow reduction of transport emissions within East Renfrewshire
- High levels of car dependency and usage within East Renfrewshire
- Perceptions of active travel and public transport as an unviable mode of everyday transport
- Barriers preventing the take up of alternative fuels, including development of electric vehicle infrastructure
- Disconnect between land use and connectivity to wider sustainable transport networks
- Accessibility and connectivity of Sustainable Transport networks to key services, facilities and amenities

Why is this Objective Relevant?

- Responds to the Climate Emergency by reduce emissions and energy use
- Improve air and environmental quality
- Contributes towards wider place, health and wellbeing outcomes
- Reduces inequalities
- Supports inclusive and sustainable economic growth

How Could it be Achieved?

- Encourage behaviour change to reduce (avoidable) car journeys in line with the Scottish Government target to reduce car km by 20%
- Enable uptake of more sustainable transport modes
- Shape future land-use development
- Facilitate uptake of electric vehicles for unavoidable car trips
- Decarbonisation of public transport and commercial vehicle fleet
- Promote and facilitate an uptake of shared mobility in order to mitigate growth in car ownership and use
- Facilitate uptake of micro-mobility options (e.g. conventional or electric scooters and bicycles)
- Coordinated integration and delivery of capital projects via a 'joined-up' approach between services
- Embracing technological innovations and opportunities

Metrics for Monitoring and Evaluation

- East Renfrewshire CO_2 Estimates
- Air Quality Monitoring
- Road Traffic Data

Strategy Objective 2: Enable more walking, cycling and wheeling

Delivery and management of high quality active travel networks

Problems Addressed

- Community perception that active travel is unviable for everyday utility trips
- Addressing variable quality of existing active travel assets and gaps within the local network
- Poor maintenance of existing active travel networks
- Legacy infrastructure heavily orientated towards private car
- Road danger concerns
- A lack of integration between active travel and public transport provision

Why is this Objective Relevant?

- Supports transition towards a net zero carbon transport system
- Enables shift to more efficient and sustainable transport modes
- Connects homes with destinations and services (20 minute neighborhood)
- Contributes towards wider place, health and wellbeing outcomes
- Supports ongoing investment and management of local transport assets
- Reduces inequalities and barriers to access
- Transition away from car based design to create more people orientated urban environments
- Supports inclusive and sustainable economic growth

How Could it be Achieved?

- Implementation of the sustainable travel hierarchy, which seeks to prioritise walking / wheeling, cycling above private car – within future council plans, programmes and budgets.
- Investment to support development of local and regional cross boundary active travel links
- Development of a walking plan for the area
- Development of local cycle network
- 'Green Network' (access & habitat) enhancements
- Work in partnership with regional transport body, neighboring authorities and transport operators to improve accessibility and integration between different sustainable transport modes
- Investigate funding and revenue generating opportunities for delivery and maintenance respectively

Metrics for Monitoring and Evaluation

- Scottish Household Survey - Travel Diary; measures of walking and cycling
- Sustrans Hands Up Survey
- Road Traffic Data / National Monitoring Framework
- Asset Condition Monitoring (proposed)
- Community Satisfaction Surveys (proposed)

Strategy Objective 3: Improve Public Transport connectivity and accessibility

Problems Addressed

- Community perception that public transport is often seen as seen as unreliable, inflexible and unattractive
- Public transport connectivity and accessibility, particularly within certain areas
- Interchange – adding to journey times, inconvenience, and cost
- Deficiency of public transport services between settlements, including east-west connectivity
- Poor integration between different transport operators / modes
- Park and ride capacity issues
- Disconnect between new land use developments and public transport services
- Unequal transport fares within the region
- Increasingly strained Community Transport services within East Renfrewshire

Why is this Objective Relevant?

- Supports transition towards a net zero carbon transport system
- Increases viability of public transport provision and enables shift to more efficient and sustainable transport modes for medium – long journeys
- Reduces inequalities and barriers to access
- Reduces car dependency
- Supports inclusive and sustainable economic growth
- Facilitate sustainable patterns of development and identification of associated transport infrastructure requirements

How Could it be Achieved?

- Working in with regional partners to facilitate east-west public transport connections and improved regional links
- Better integration between public transport and existing / future active travel networks
- Support simplified ticketing and fare structures (i.e. smart ticketing)
- Development of improved public transport interchanges, such as Mobility Hubs
- Bus priority measures on key road corridors
- Improved boarding provision and Real Time Passenger Information at stops and interchanges
- Exploration of Demand Responsive Transport to improve local connectivity, and whether technological innovations or new statutory powers can support improved bus service provision in area
- Establishing from the outset public transport provision for new developments

Metrics for Monitoring and Evaluation

- Scottish Household Survey - Travel Diary; measures of walking and cycling
- Equality Impact Assessment measures
- Community data analysis tools - connectivity and deprivation analysis

Strategy Objective 4: Support liveable, resilient and connected communities

Problems Addressed

- Increased car ownership and usage
- Demand for improved traffic management, particularly nearby schools (i.e. resulting from poor parking behaviour or traffic speed / volume and associated road danger concerns)
- Pavement parking and increased parking pressures
- Legacy infrastructure heavily orientated towards private car
- Road safety concerns
- More extreme weather events (e.g. localised flooding)
- Barriers to access local services, facilities and amenities

Why is this Objective Relevant?

- Supports 20 minute neighborhood aspirations by improving connectivity to local services, facilities and natural spaces, including more active school travel
- Reduces car dependency
- Help people of all ages and abilities move around easily and safely within their community by facilitating safer, less car dominated, streets
- Reduce dominance of traffic in favour of other community needs and urban functions
- Increased resilience to adapt to a changing climate by providing multi-functional streets and public spaces
- Support cohesive communities by providing more opportunities to interact with others
- Contributes towards wider place, health and wellbeing outcomes

How Could it be Achieved?

- Community empowerment to identify local priorities for action (i.e. Town and Neighbourhood Action Plans)
- Neighbourhood and School Zones and associated traffic management and design, including street retrofit, to support low speed / low traffic communities
- Urban greening, such Sustainable Urban Drainage Systems to improve flood resilience and biodiversity
- Identification and enhancement of path assets (i.e. strategic urban paths, routes to school and green active routes)
- Support community-led initiatives, such as ‘Play Streets’

Metrics for Monitoring and Evaluation

- Scottish Household Survey - Travel Diary; measures of walking and cycling
- Equality Impact Assessment measures
- Road Traffic Data
- Asset Condition Monitoring (proposed)
- Community Satisfaction Surveys (proposed)

Strategy Objective 5: Sustainable management of local road and path networks

Supporting safe, sustainable, and efficient movement of people and goods

Problems Addressed

- High car usage impacting efficiency, condition and overall sustainability of the road network
- Future population growth and additional pressures on the road network
- Road safety / road danger concerns
- Increased car ownership and on street parking pressures
- Perceived lack of viable sustainable transport alternatives
- Parking capacity constraints, including slow turnover of parking spaces within local urban centres
- Transition to alternative fuels and limited / unreliable public EV charging infrastructure provision
- Local freight distribution (i.e. increase in light good vehicles and kerbside pressures)

Why is this Objective Relevant?

- Supports sustainable management of the local road and transportation network and transition towards a net zero carbon transport system
- Enables shift to more efficient and sustainable transport modes
- Aligns with wider active travel, public transport and 'liveable' community aspirations
- Provides opportunities for revenue generation
- Deliver inclusive economic growth and increased productivity through the efficient movement of people and goods
- Reduce deaths and serious injuries on the road network

How Could it be Achieved?

- Demand Management; support for increase home working provision of remote working hubs
- Reorientation of local transport network towards more sustainable modes of transport (i.e. better utilisation of existing road assets, improving bus travel time reliability on key routes etc)
- Delivery of Shared and 'On Demand' mobility services, such as car clubs, bike hire and other transport services
- Implementing a local 'road hierarchy' classification system to determine appropriate traffic management and design treatments to support a safe systems approach to road safety
- Support solutions for more sustainable 'last mile' deliveries to manage goods and reduce transport emissions
- Public–private sector partnership to expand EV charging provision and support transition to alternative fuels
- Parking management strategies

Metrics for Monitoring and Evaluation

- INRIX journey time and congestion data (or similar source)
- Scottish Household Survey Travel Diary - measure of people encountering delays
- Labour market catchment analysis
- STATS19 crash data
- Road Traffic Data

12.4.4 The linkages between the Strategy Objectives and TPOs are set out in Table 32

Table 32: Links between Strategy Objectives and TPOs

Transport Planning Objectives	Strategic Objectives				
	SO1: Reduce carbon emissions and other harmful pollutants	SO2: Enable more walking, cycling and wheeling	SO3: Support liveable, resilient and connected communities	SO4: Improve Public Transport connectivity and accessibility	SO5: Sustainable management of local road and path networks
ACTIVE TRAVEL					
Improve attractiveness of active travel as an everyday mode of transport for local journeys	✓	✓	✓		✓
Enhance quality and connectivity of active networks for all ages and abilities	✓	✓	✓		✓
Development of new infrastructure where required in order to facilitate more active journeys	✓	✓	✓		✓
Support improved integration between active travel and public transport modes	✓	✓	✓	✓	✓
Reduce road danger and improve overall quality of urban environment			✓		✓
PUBLIC TRANSPORT					
Improve attractiveness of public transport provision and overall quality of services.	✓		✓	✓	✓
Improve east-west public transport connectivity	✓		✓	✓	✓
Support improved public transport integration between operators	✓		✓	✓	✓

Transport Planning Objectives	Strategic Objectives				
	SO1: Reduce carbon emissions and other harmful pollutants	**SO2: Enable more walking, cycling and wheeling**	**SO3: Support liveable, resilient and connected communities**	**SO4: Improve Public Transport connectivity and accessibility**	**SO5: Sustainable management of local road and path networks**
Deliver a simplified fare structures to ensure public transport provision is affordable and equitable	✓		✓	✓	✓
Improve the speed and reliability of bus journey times	✓		✓	✓	✓
Enhance public transport service connectivity between settlements and essential services	✓		✓	✓	✓
Improve the coverage and convenience of public and community transport services	✓		✓	✓	✓
CAR & FREIGHT					
Reduce car usage to improve attractiveness and reliability of sustainable transport modes	✓		✓	✓	✓
Promote sustainable management of local transport networks to support wider place and wellbeing outcomes	✓	✓	✓		✓
Manage transport demand and enhance sustainable transport options in order to reduce car dependency	✓		✓	✓	✓
Increase turnover of parking spaces within urban centres			✓		✓
Enhance coverage and reliability of electric vehicle charging infrastructure	✓		✓		✓

12.4.5 The TPOs and Strategic Objectives presented within this initial Case for Change appraisal of East Renfrewshire's transport systems address the many *interdependent problems* which exist in the area and adjoining regions, these include:

- **Social Exclusion:** The appraisal has identified how existing transport provision can act as a barrier for people accessing employment, healthcare, and other vital service destinations within and beyond the region.
- **Transport Equity:** Strategy objectives highlight how the lack of public transport connections contribute to existing social inequalities within East Renfrewshire and an inability for certain groups and demographics to reach key destinations across the area.
- **Physical Activity & Health:** Although East Renfrewshire is amongst the heathier areas of the region, strategy objectives seek to enhance provision for everyday active journeys to ensure residents are as healthy and active as possible and communities are thriving, attractive and sustainable.
- **Air Pollution:** While the area does not possess any Air Quality Management Areas, addressing transport emissions – the most significant source contributing to reduced air quality in urban areas – will help improve the overall quality of urban environments while mitigating displaced emissions within areas such as Glasgow City.
- **Accessibility:** Ensuring equitable access to the transport system, particularly for people with protected characteristics, is a fundamental strategic aim for the future LTS, with the appraisal identifying a need to improve quality and accessibility, as well as the need for improved integration of various services.
- **Connectivity:** Various connectivity issues were identified within the appraisal, with strategy and transport planning objectives reflecting the need to enhance coverage, convenience and reliability to support an increase in public transport journeys to key local and regional destinations
- **Active Travel:** The appraisal recognises the various individual, social and material barriers to more walking, cycling and wheeling in the area. Objectives therefore seek to address the enhance the overall quality and connectivity of active travel networks at a local and regional level to enhance the viability of active travel for shorter, everyday utility trips
- **Safety:** Strategy objectives highlight the need for safe systems approach to road safety in order to mitigate road danger concerns and enable people of all ages and abilities to move around easily and safely within their community. This has the additional benefits in terms of improving overall quality of urban environment and safety levels within the wider transport system.
- **Capacity Constraints:** Strategy objectives seek to better utilise existing roads and transportation assets in order to prioritise more space efficient transport modes and increase the overall capacity of the road network.
- **Network Management:** The appraisal recognises pressures arising from population growth, car usage on the road network resulting in increased maintenance costs and traffic management. This highlights the requirement for ongoing investment, but also the need to transition away from car based systems to ensure both the sustainability of the road network and delivery of improved social, economic and environmental outcomes.

12.4.6 Overall, there is close integration between the identified TPOs and the Strategy Objectives and how these address interdependent problems while delivering wider benefits in line with wider policy aspirations. Strategy Objectives will act as the basis for future community and stakeholder engagement.

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Appendix A Stakeholder Consultation

A.1 Overview

A.1.1 Effective and proportionate consultation is an important part of any transport study, or strategy. It is critical to ensure that all current and future transport challenges, issues and opportunities have been identified and considered as part of the work stream. Challenges, issues and opportunities may be real or perceived and may have been raised by one or more stakeholders, or members of the community.

A.2 Consultation Approach

A.2.1 Stakeholder engagement from the East Renfrewshire Accessibility and Transport Study was used to inform the development of this LTS. The approach to Consultation and Engagement within the East Renfrewshire Accessibility and Transport Study included:

- A large, focussed workshop with East Renfrewshire Community Planning Partnership
- Discussions with key ERC Officers
- Workshop with Strathclyde Partnership for Transport (who had an extensive overview of the bus market and bus operations across the region)
- Presentation workshop with East Renfrewshire Elected Councillors
- Information and opportunity to comment questionnaires were circulated to Elected Councillors (of which 5 individual responses were received)
- Workshop with East Renfrewshire Youth Forum including representative MSYPs
- Telephone Consultation with Sustrans – included 3 Sustrans officers who have both a local East Renfrewshire and National remit
- Information and opportunity to comment questionnaires were circulated to local organisations. The following responded:
    - Woodfarm Education Centre
    - East Renfrewshire Faith Forum
    - Scottish Fire & Rescue; and
    - Scottish Ambulance Service.
- Information and Opportunity to comment questionnaires were circulated to Community Councils. The following responded:
    - Broom, Kirkhill and Mearnskirk Community Council
    - Busby Community Council
    - Clarkston Community Council
    - Eaglesham and Waterfoot Community Council
    - Giffnock Community Council
    - Neilston Community Council.
- Consideration of responses from East Renfrewshire residents to Regional Transport Strategy Public Survey on behalf of SPT
- Booster survey targeted at East Renfrewshire young people (ages 16 – 21)

A.2.2 Further information on these is provided below. It should be noted that this section captures and records the comments made by stakeholders and does not necessarily set out the evidence that supports some of the comments made. The approach however was to gather perceptions and experiences through engagement and consider these views against evidence collected as part of the parallel data collection workstream discussed in previous chapters.

A.2.3 The below engagement therefore was focussed on engaging with various stakeholders and **asking for informed judgement and opinion only.**

A.3 Views Captured

General Strategic Points

A.3.1 Cross Local Authority connectivity and East/west links and routes through the Dams to Darnley Country Park were raised by numerous stakeholders across the consultation period with key concerns noted as:

- no, or circuitous public transport links to make east / west journeys,
- different bus operators providing services in the east compared with the west,
- price differentials between these operators and perceptions that the Country Park in itself acts as a barrier between communities.
- road safety issues for those who drive or attempt to cycle across the Country Park.

A.3.2 Whilst stakeholders noted these key problems, there were positive intimations that some of these issues would be resolved with the realignment of Aurs Road, however those who understand the commercial bus market did question whether this will effectively make any difference. Young people in the western sections had particular concerns that it was difficult for them to socialise, work or access education in the east.

A.3.3 **In general, there were concerns that the nature of the public transport network and the difficulties in accessing key services from various areas is contributing to an increased reliance on private cars.** This is particularly problematic given the current climate emergency and the ambition to be net zero by 2045. Stakeholders were by and large supportive of improving accessibility for all by public transport and where appropriate, active modes.

"The high use of single occupancy vehicles increases traffic congestion in the area and leads to higher levels of air pollution. This in turn can increase the incidences of asthma and other respiratory disease."

Access to Health Care

A.3.4 One of the key issues raised across the consultation programme was access to healthcare, both in terms of health centres and hospitals. There are currently no hospitals located within the East Renfrewshire local authority area which means residents have to travel to the QEUH, Paisley RAH, Hairmyres in East Kilbride and the New Victoria Hospital in addition to other specialist services across the region.

A.3.5 **In general, there are a lack of direct public transport links from many parts of East Renfrewshire to these hospitals which causes significant issues for patients, staff and visitors who have to attend hospitals**. East Renfrewshire Community Planning Partnership felt that the 'healthcare hub' concept is a particular problem for the most vulnerable within society (elderly, deprived, disabled).

A.3.6 Public survey responses show that this issue has a direct effect on East Renfrewshire residents in a number of ways including, having to arrange travel with friends or family, being late or unable to attend appointments, or having to use taxi services.

A.3.7 The issue is not limited to hospitals, with the consolidation of health centres becoming a particularly acute issue as less GP surgeries are now located within communities. Eastwood Health Centre was referenced as a particularly problematic destination to travel to for those within its catchment area.

A.3.8 It was felt that the centralisation of Hospitals and Health Centres is becoming a known issue within the planning world. Those responsible for delivering facilities often neglect to consider transport issues and transport links and often work under the premise of *'build it and they will come'*. Some stakeholders were aware of numerous examples where the lead delivery body and developers have paid little thought to transport links and set aside no transport funding, expecting the burden to be covered elsewhere.

A.3.9 There is a successful Community Transport Service which provides access to healthcare within East Renfrewshire however this is limited by resources and strict criteria which ensures it is available to those

who need it most. Third sector services such as this are critical to the area however funding and resourcing these services is a major constraint (especially the continued reliance on voluntary services).

A.3.10 Despite the availability of the community transport service within East Renfrewshire, stakeholders were clear that this should be seen as something to supplement public transport and in no way a viable replacement.

"Centralisation of health centres is proving problematic – those in charge identify a site and subsequently have a "build it and they will come" mentality."

"'Hub to Hospital' policy is not helpful - people don't want to and/or cannot get various buses and trains to get to hospital. This impacts the most vulnerable and puts further strain on the third sector."

Access to Employment

A.3.11 Access to employment can be an issue for those who live in East Renfrewshire. Generally, there are good rail and bus connections from most of the larger settlements into Glasgow City Centre itself, however the key issue arises when people wish to travel across East Renfrewshire or to other local authority locations. The regional public transport network is effectively set up as a 'hub with spokes' which makes cross authority transport difficult without access to private transport. This can make even short journeys difficult. Employment East Renfrewshire provided an example of providing an unemployed man a bicycle which cut his 90-minute public transport journey going into Glasgow and back out again to a 15-minute cycle.

A.3.12 There also seemed to be concerns with the performance of the bus network with perceptions of unreliability, late running or no-show services and a lack of understanding of the pricing policies. Comments regarding rail services were generally related to over-crowded services on routes running through East Renfrewshire and limited parking availability within car parks for transfer from road to rail. It should be noted that this consultation occurred before the COVID-19 pandemic, so issues around overcrowding may no longer be applicable.

A.3.13 New developments at Auchenback (Barrhead South) if a rail station is ever delivered will improve transport options into Glasgow for those in the area and are welcomed by stakeholders. However it was noted that this again, provides routes into the city and not to other areas which are difficult to access. A number of stakeholders referenced the areas at Paisley, Braehead, Glasgow Airport and Hillington as key job locations from where they have no direct public transport links. Similarly, Silverburn Shopping and Entertainment Centre is difficult to access from the eastern section of East Renfrewshire.

A.3.14 Cost of travel for young people is an issue for those who need to travel for work or education. Young Scot and Young Persons rail card discounts are not valid for rail journeys during peak times, this leaves young people, those on work experience and apprenticeships paying full fare, often when on very low incomes. Introducing free travel for under 19s will help but only for part of the time that young people will need access to further education. Since this engagement, the Scottish Government have announced that in 2022, everybody aged under 22 will have free bus travel – this announcement may to some degree help solve this issue.

Access to Education

A.3.15 Access to education is an important issue within East Renfrewshire. Whilst the area has some very high performing schools, there are no higher or further education establishments located within the authority, meaning that young people must travel to access these services. Consistent with issues raised above, lack of direct connections cause real problems when accessing Colleges and Universities which are not located in Glasgow City Centre.

A.3.16 **Views were expressed that connectivity has always been a barrier to young people's aspirations.** Stakeholders questioned whether lack of direct links, requirements to interchange, and overall journey times influenced decisions on which institution to attend as opposed to which course most suited their needs. Education stakeholders noted that a large number of young people choose to attend Clyde College Glasgow in Langside because it is more accessible, and clearly located much closer.

A.3.17 Young people who lived within the western parts of East Renfrewshire noted particular issues in travelling to Glasgow University due to lack of links, requirements to interchange and difficulties in accessing the campus before 9am. This results in young people who wish to attend Glasgow University from the Barrhead area, often choosing to drive instead.

A.3.18 As noted previously, cost is an issue for young people travelling to education as Young Scot and Young Persons rail cards do not offer a discount during peak periods. This means that students have to pay full fare in order to attend college or university for a 9am start.

A.3.19 For younger people, travel to school – in particular school drop-offs / picks-ups – was believed to result in conflicts with residents, those commuting from the school and other road users.

A.3.20 There was a feeling that there needs to be a change of parents' attitudes towards travel behaviour. This could be influenced through the implementation of schemes such red zones around schools – although it was pointed out that each establishment is unique and as a result each school may need their own bespoke solution.

A.3.21 There was a feeling from the education team that young people are often quite receptive to messages about sustainable travel and behaviour change and that more should be done to influence them. This can include providing new routes and paths to school which can keep those walking and cycling off road, providing facilities at school for bike storage, and offering changing facilities.

"Transport accessibility should not determine your future"

Cycling Interventions and Improvements

A.3.22 ERC are currently taking forward numerous cycling projects alongside partners including Sustrans and Cycling Scotland. Key projects include the route alongside Aurs Road through the Dams to Darnley Country Park, an East – West Barrhead route through the Carlibar Park, and a route between Neilston and Uplawmoor.

A.3.23 Sustrans are key contributors to the majority of these projects and are working with the Council to ensure the Aurs Road project is an exemplar project which ensures high quality routes that are segregated from vehicular traffic to thus form part of a network in the area. Stakeholders noted that perception is a big problem when encouraging people to cycle as they do not wish to share the road with large vehicles. Facilities being introduced now will mitigate some of those concerns in the future.

A.3.24 Sustrans noted that they can now work directly with Community Councils rather than the Community Council having to go through ERC. The Neilston to Uplawmoor project is an example of this and is evidence of increased direct community action.

A.3.25 Key issues remain with regards funding, particularly at local authority level where council budgets are stretched. Sustrans offer Places for Everyone funding which is match funded, whilst Cycling Scotland provide grant funding through their Cycle Friendly Employer, Cycle Friendly School and Cycle Friendly Campus awards.

"A top priority will be to create a transport system where travellers choose walking, cycling and/or public transport for everyday journeys over the private car (conventional, hybrid and electric)."

Other Issues

A.3.26 From discussions with stakeholders, members of the public and Community Councils. **It is clear there are elements of confusion with the bus operating model, funding of services and the role of SPT**. A number of stakeholders were unaware that bus operators work in a commercial market and are under no obligation to provide services which are commercially unviable. An added complication was the role of the Council itself and that of SPT, and the latter's remit - when they can get involved to provide support for services. This seems to have led to heightened expectations of what SPT can do, compared with the reality of what SPT can actually do - both legally and financially.

A.3.27 Park and Ride availability was a point raised by a host of stakeholders including the public. Questions were generally concerned with park & ride sites being at capacity and the requirement to provide more sites, or at least more spaces. Park and Ride in the west of Scotland is effectively limited to serving rail and Subway stations however the success of bus based park & ride in the east was noted and various stakeholders questioned as to whether something similar should be considered, with Silverburn just off the M77 a suggested site.

A.3.28 There were however conflicting views who noted that park & ride sites will simply encourage more vehicle use towards these areas which does not fit with national strategy, or the climate emergency (air & noise pollution).

A.3.29 Whilst stakeholders raised concerns about the effects of reduced or ceased services in the evenings on people getting home, there were issues raised that public transport timetables do not support the night-time economy. Silverburn was used as an example of a shopping and entertainment centre which operates late into the evening, but people find it difficult to access by public transport. The same can be said of localised town centres in that lack of transport operations in the evening may well be constraining the growth of a night-time economy.

Specific Geographic Comments and Locations

A.3.30 In addition to the overarching themes discussed above, a number of specific geographic issues were raised, these included:

- Residents of Uplawmoor have issues accessing places due to lack of transport links
- Giffnock and Thornliebank are heavily congested
- Improved bus service frequency required to Eaglesham
- Improved bus services required across the area after PM peak
- Suggest 6 car trains on East Kilbride line on a Saturday
- No direct public transport access to Eastwood Health Centre
- No direct public transport access to the QEUH
- No direct public transport access to Silverburn
- Access to Glasgow Airport, Braehead and surrounding area a problem
- Poor integration between bus and rail timetables – Auchenback bus to Barrhead rail an example
- Fast moving traffic speeds on Eastwoodmains Road
- Require a safe cycle route from Eaglesham to Clarkston
- Lack of bus services through the Dams to Darnley country park
- Safety concerns with driving Aurs Road through the Dams to Darnley Country park in the dark
- Access to platforms for people with disabilities at various rail stations

A.4 Summary

A.4.1 Overall, the issues raised during this consultation exercise reflected those which were identified within the previous sections. Problems surrounding access to health, employment and education were all raised, with the lack of east-west routes and requited number of interchanges within public transport journeys being specifically highlighted problems.

A.5 School Travel Assessment Consultation findings

TECHNICAL NOTE

DATE: 21 June 2019

SUBJECT: School Travel Assessment Commonplace Survey

PROJECT: ERC School Travel Assessment

Introduction

As a key stage in the School Travel Assessment (STA) study, undertaken in collaboration between East Renfrewshire Council (ERC) Roads and WSP UK Ltd, a Commonplace survey was undertaken.

Commonplace is an online engagement platform, which allows stakeholders to provide their views. A Commonplace platform was developed specifically for the East Renfrewshire School Travel Assessment Study. A series of both closed and open questions were developed to ensure stakeholders had sufficient opportunity to provide comment. The Commonplace platform was made available during the month of May 2019, to which the data collected on stakeholder views has been reviewed and high-level findings reported within this Technical Note. The Commonplace platform will be maintained over a period covering 12 months to ensure that all stakeholders have the opportunity to have their views considered.

This Technical Note is structured to provide a summary of the findings across the 4 stakeholder groups invited to participate, including:

- Parents;
- Pupils;
- School Communities; and
- School Staff

Parents

A total of 877 responses were received from parents during the survey period. The responses received from parents represented a sample covering 37 different educational facilities. In respect of the coverage from each educational facility, the following summarises the total responses:

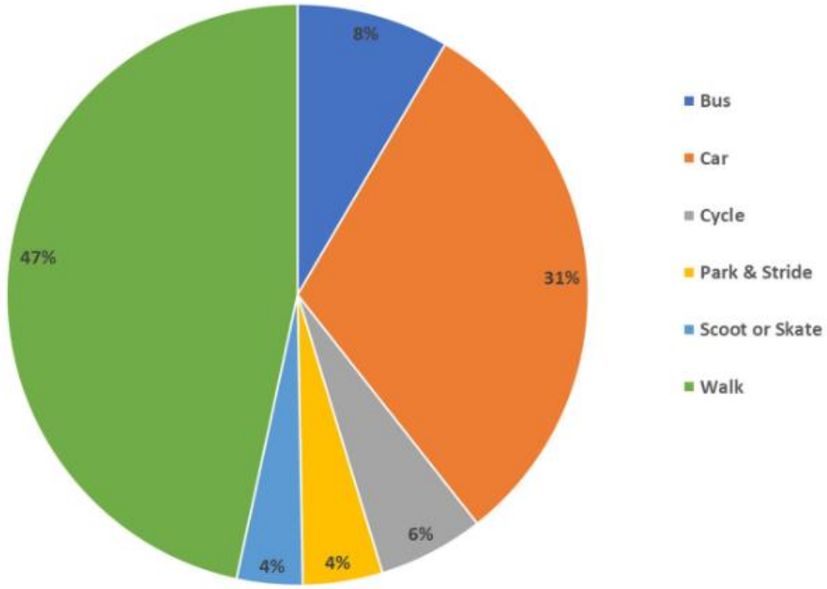
- 119 responses from parents relating to High Schools;
- 717 responses from parents relating to Primary Schools; and
- 19 responses from parents relating to Family Centres.

When taking account of the spread of responses against the schools represented, the following summarises:

- 100% of all High Schools represented
- 96% of all Primary Schools represented
- 66.7% of all Family Centres represented

The parents were asked how their child gets to and from school on most days of the week, to which Figure 1 presents the findings.

Figure 1 – Parent Responses (How child gets to and from school on most days of week)



The results demonstrate that walking represents the largest proportion of school travel across all East Renfrewshire against the scale of responses received. Travel by car represents the second most common travel mode to and from school across respondents. Cycling represents a marginally smaller proportion across the sample, however still is higher than travel by bus, scoot or skate.

Understanding the main factors that influence a parent and/or their child's decision to travel by a mode was asked and a summary of the frequency of reason selected is provided below within Table 1.

Table 1 - Parent Responses (main factors influencing how child travels to school)

Reason	Percentage
Distance	15%
Working hours / schedules	12%
Health / wellbeing	11%
Convenience	10%
Time	10%
Safety	9%
Quality of walk / cycle routes	7%
Weather	7%
Previous or onward journeys	6%
Lack of alternative transport options	4%
Reliability	3%
Socialising	3%
Bags / school equipment	2%
Comfort	1%
Cost	1%
School uniform	0%

Distance features as the most frequently selected reason for influencing how a parent and/or their child travels to school. Working hours / schedules then followed closely second. Aspects such as cost and comfort were not commonly selected, so too, lack of alternative transport options.
Understanding what environmental or infrastructure improvements were considered necessary to enable or encourage more active travel to school was asked of parents. The frequency of reason selected is provided below within Table 2.

Table 2 - Parent Responses (environment or infrastructure improvements to enable or encourage more active travel to school)

Required Improvements	Percentage
Traffic management around schools	17%
Improved cycling routes to school	11%
Traffic calming	11%
Additional road crossing facilities	10%
Improved walking routes to school	9%
Speed limit reduction	9%
Improved 'Park & Stride' facilities	8%
Upgraded road crossing facilities	8%
Improved maintenance of paths / footways	7%
Better storage/changing facilities at school	4%
Environment / streetscape improvements	3%
Better street lighting	2%

Traffic management around schools featured as the most common response, followed by improved cycling routes to school and traffic calming.

Understanding what initiatives or incentives are felt necessary to encourage more active travel was asked. The frequency of reason selected is provided below within Table 3.

Table 3 - Parent Responses (initiatives or incentives felt necessary to encourage active travel)

Initiative / Incentive	Percentage
Walking / cycling 'buddy' scheme	21%

Walking bus	21%
Cycling bus	14%
Cycle training ('Bikeability')	11%
Incentives / prizes	10%
Games / challenges	8%
Cycle maintenance courses	6%
Car pools	5%
Help with route planning	4%

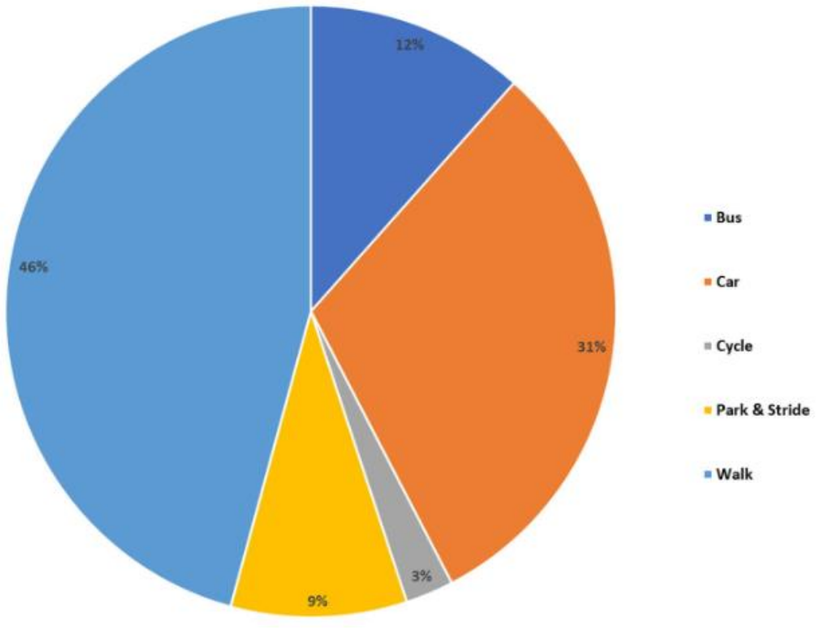
Walking / cycling ‘buddy’ scheme and a walking bus feature as the most common response, followed by a cycling bus.

Overall, the feedback provides clear insight into the thoughts and perceptions of parents.

Pupils

A total of 312 responses were received from pupils during the survey period. Pupils were asked how they travel to school, to which the frequency of the mode stated was analysed and is presented within Figure 2. It should be noted that there were a number of instances whereby pupils stated that they travelled to school by helicopter, however these have been discounted from the analysis.

Figure 2 - Pupil Responses (mode of travel to school)



The results demonstrate that walking represents the largest proportion of school travel across East Renfrewshire against the scale of responses received. Interestingly this correlated closely with the sample of parents who participated. Travel by car represents the second most common travel mode to and from school across respondents. Bus represents a marginally smaller proportion across the sample, however still is higher than travel by cycling, scoot or skate.

Understanding the main factors that influence a pupil’s decision to travel by a mode was asked and a summary of the frequency of reason selected is provided below within Table 4.

Table 4 - Pupil Responses (reasons for travel mode)

Reason	Percentage
Exercise	14%
Spend time with friends	12%
Fitness	11%
Weather	9%
Badly parked cars	8%
Distance	8%
Takes too long	7%
Busy before or after school	6%
Too many cars	6%
Bags/equipment	4%
Cars driving too fast	4%
Quality of walking routes	4%
Crossing the road	3%
Personal safety concerns	2%
Road safety concerns	2%

The main reason that pupils sampled travel as they currently do was noted as exercise, followed closely by spending time with friends. Pupils were then asked, ideally how they would like to travel to school, to which the results are shown within Table 5.

Table 5 - Pupil Responses (how pupils would like to travel to school)

Mode	Percentage
Walk	44%
Cycle	23%
Car	19%
Bus	6%
Scoot or skate	5%

Park & Stride	4%

The results suggest that walking and cycling are a desired mode of travel, with car featuring as the third most preferred mode, before bus.

School Community

A total of 79 responses were received from members of the school community during the survey period. The responses received from the school community represented a sample covering 24 different educational facilities. In respect of the coverage from each educational facility, the following summarises the total responses:

- 13 responses from members of the school community relating to High Schools;
- 66 responses from members of the school community relating to Primary Schools; and
- 1 responses from members of the school community relating to Family Centres.

When taking account of the spread of responses against the schools represented, the following summarises:

- 71.4% of all High Schools represented
- 76% of all Primary Schools represented
- 11.1% of all Family Centres represented

Understanding the main factors that members of the school community perceived as influencing a child's decision to travel by a mode was asked and a summary of the frequency of reason selected is provided below within Table 6.

Table 6 – School Community Responses (factors influencing school travel habits)

Factor	Percentage
Lack of parking enforcement	15%
Traffic volume	12%
Existing travel habits / preferences	10%
Parent's working hours / schedules	9%
Parking provision	8%
Road safety	8%
Traffic speeds	7%
Personal safety / security	6%
Availability of quality cycling routes	5%
Lack of alternative transport options	4%
Availability of quality walking routes	3%
School hours	3%
Maintenance of paths / footways	2%

A lack of parking enforcement featured as the most commonly selected factor that influences school travel decisions. Parking provision and road safety follow second. Interestingly maintenance of paths / footways, which is often perceived as a barrier, was infrequently selected. Members of the school community were asked a similar question to parents, considering what improvements they consider necessary to encourage sustainable travel. Table 7 presents the frequency of answers from respondents.

Table 7 – School Community Responses (improvements necessary to encourage sustainable travel)

Required Improvement	Percentage
Traffic management plan around schools	16%
Better parking enforcement	15%
Traffic calming around school	12%
Speed limit reduction around school	11%
Improved 'park & stride' facilities	7%
Improved walking routes to school	7%
Additional road crossing facilities	6%
Improved cycling routes to school	6%
Upgraded road crossings	5%
Frequent/reliable bus service	4%
Personal journey plans for pupils	4%
Better storage/changing facilities in school	3%
Improved maintenance of paths / footways	2%
Personal journey plans for staff	2%
Better street lighting	1%

Similar to the results of the question posed to parents, traffic management and parking enforcement feature most frequently as measures to encourage active travel. Traffic calming and speed reduction measures then follow in respect of frequency of suggestion.

Staff

A total of 69 responses were received from school staff during the survey period. The responses received from school staff represented a sample covering 23 different educational facilities. In respect of the coverage from each educational facility, the following summarises the total responses:

- 26 responses from staff of High Schools;
- 39 responses from staff of Primary Schools;
- 2 responses from staff of Family Centres; and
- 2 responses from staff who did not disclose their workplace.

When taking account of the spread of responses against the schools represented, the following summarises:

- 100% of all High Schools represented
- 56% of all Primary Schools represented
- 22.2% of all Family Centres represented

Across the school staff sample, 97% travel by car to work.

Understanding the main factors that influence school staff's decision to travel by a mode was asked and a summary of the frequency of reason selected is provided below within Table 8.

Table 8 – School Staff (factors influencing travel to and from work)

Reason	Percentage
Convenience	13.2%
Time	13.2%
Working hours / schedules	10.5%
Lack of alternative transport options	10.1%
Distance	9.1%
Bags / equipment	7.1%
Reliability	6.4%
Previous or onward journeys	6.1%
Weather	6.1%
Comfort	5.1%
Availability of Parking	4.4%
Safety	3.4%
Cost	2.7%
Health / wellbeing	1.0%
Quality of walk / cycle facilities	1.0%
Childcare	0.7%

Convenience and time featured as the most common response, with working hours and schedules featuring second. Lack of alternative transport options featured heavily among the top 4 factors.

Interestingly childcare, health and wellbeing and the quality of walking and cycling facilities represented 1% of less of options selected to be contributory factors to staff travel choice.

School staff were asked what improvements they felt were necessary to encourage more sustainable travel, the frequency of response is provided within Table 10.

Table 10 – School Staff (improvements considered necessary to encourage sustainable travel)

Reason	**Percentage**
Direct/frequent/reliable bus service	14.6%
Improved cycling routes to school	11.9%
Better storage/changing facilities in school	10.2%
Better integration between bus & rail	9.7%
Improved 'park & stride' facilities	8.4%
Traffic management plan around school	8.0%
Improved maintenance of paths/footways/roads	6.6%
Better route / timetable information	6.2%
Better route / timetable information	6.2%
Traffic calming outside school	4.0%
Improved walking routes to school	3.5%
Environment / streetscape improvements	3.1%
Personal journey plans	1.8%
Upgraded crossing facilities	1.8%
Additional crossing facilities	1.3%
Better street lighting	1.3%
Speed limit reduction	1.3%

Direct, frequent and reliable bus services features as the most common improvement considered necessary to encourage sustainable travel by school staff.

Conclusion

The Commonplace survey has allowed a broad range of stakeholders to have their say. The results captured over the 12 month running period of the platform will require further detailed considerations and where applicable a direct response by East Renfrewshire Council as the project moves forward. This Technical Note provides an overview of the responses and highlights a number of critical points relating to stakeholder perceptions which have influenced the development of action plans for each school as part of the School Travel Assessment.

Appendix B Bus Journey Time Reliability

B.1 Introduction

B.1.1 Real Time Passenger Information (RTPI) was provided by SPT to assist in the project and to identify any bus travel time reliability issues. Information was sourced for the Stagecoach X76 which although it doesn't stop within East Renfrewshire, it does transit through the local authority area using the M77. This was included in the analysis to identify any reliability issues of travelling on the M77 which could impact any consideration of a possible service from East Renfrewshire also utilising the M77.

B.1.2 Secondly the First Bus service 38 was investigated which utilises the A77 providing local road connectivity for East Renfrewshire residents with Glasgow City Centre and beyond.

B.1.3 Three months' worth of data was extracted from SPT's system and the journey times recorded by the bus beacons every day along these routes over this period were analysed. The information is presented below in the form of Box and Whisker plots. These plots highlight the variability of travel times across each day over this three-month period and accounts for dwell time for the boarding and alighting of passengers. For brevity, only the AM and PM peak plots are presented.

Box and Whisker Diagrams Explained

B.1.4 The box and whisker diagrams that follow, show the distribution of recorded journey times between two fixed locations. The diagrams that we have presented are examples of buses that pass through the Council area – one is a X bus which uses the M77 motorway (from Kilmarnock to Glasgow) and the other surface bus service that runs through surface streets from Giffnock to Newlands.

B.1.5 The value of these diagrams is to represent variations of journey time. In essence, a bus can only move between point A and Point B in a particular time although the journey is impacted by a number of variables including day of the week, time of day, level of congestion, Road Traffic Collisions and diversions.

B.1.6 Taking each component of the diagram in turn:

- Each recorded point represents a recorded journey time for a specific day (i.e. all the points on Monday represent all recorded times for every Monday during a 3-month period)
- Each point is then allocated to one of four quarters, with an equal number of points in each quarter
- Those points below the box and to the bottom of the 'whisker' indicate those journey times that are the quickest, whilst those above the box and to the top of the 'whisker' indicate the longest journey times
- The box, therefore, covers the 'middle' two quarters, with the horizontal line within the box representing the median journey time. (Ideally this should be as close to the time-tabled time as possible)
- The points above or below the whiskers are classed as 'outliers' in this statistical approach and could indicate errors in the recording of the times by the onboard bus system
- The more clustered and constrained the box is the more reliable the journey times are.

B.1.7 In general terms the X76 AM diagram shows that Saturday is generally the best day to travel as journey time reliability is the best on that day. For weekdays Mondays & Fridays are the best, followed by Wednesday and Tuesday & Thursdays impacted the most by journey time variations.

B.1.8 These diagrams also help to demonstrate how often there are differences in journey times – on a Saturday a journey could vary between just under 30 minutes to around 50 mins but on a Thursday there could be an additional 20 minutes added to the overall length of journey.

B.1.9 These graphs help to understand why people cite unreliability as a key issue for bus users particularly if you can't guarantee your arrival time. This is less evident on train travel as there are less variables and / or interruptions that impact the journey from A to B.

B.2 X76 Service

Figure 73: Bus Time Reliability - X76 AM Peak Northbound

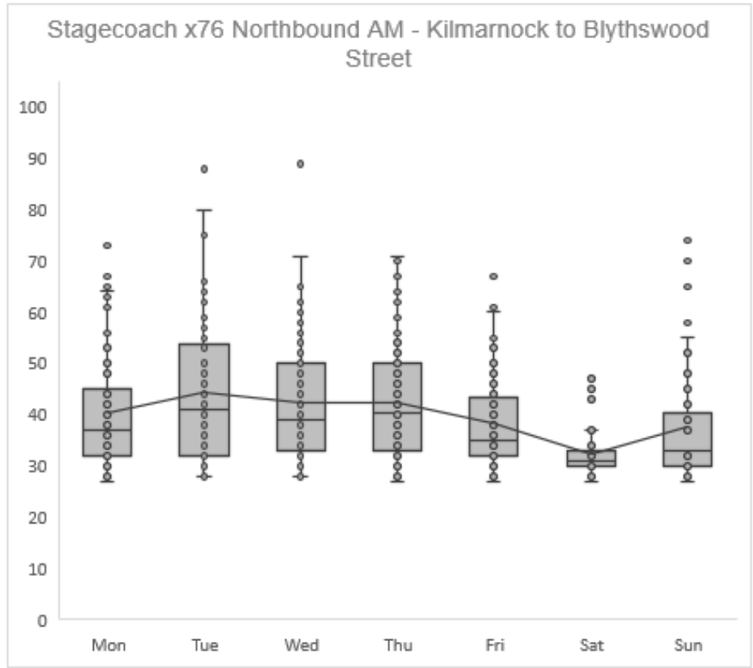
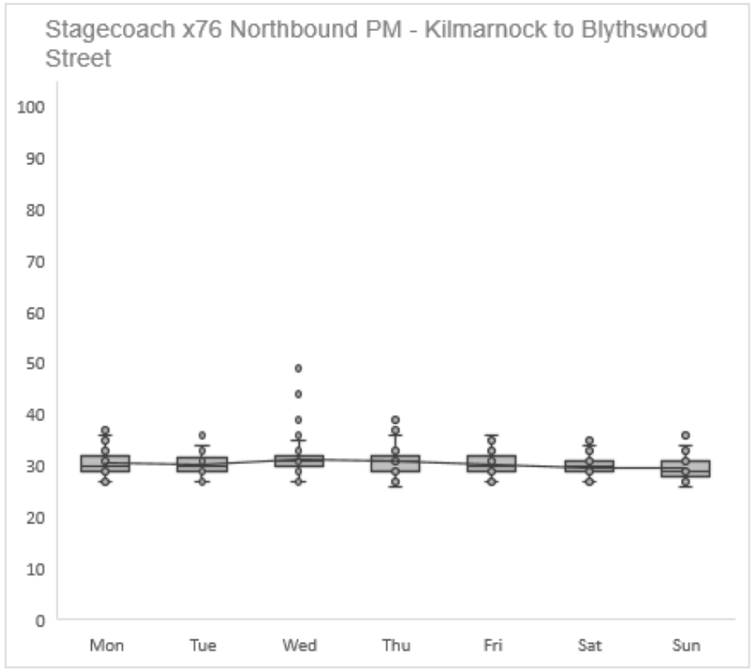


Figure 74: Bus Time Reliability - X76 PM Peak Northbound



B.2.1 It is evident that the X76 provides a highly reliable journey time in the PM peak as it travels northbound towards Glasgow. However, in the AM peak as it mixes with commuting traffic there is significant variation in journey times. On weekdays Tuesday, Wednesday and Thursday have the greatest variation of journey times.

B.2.2 It should also be noted that whilst the X services are marketed as Express that this function is only really materialised out with the AM peak period. This significantly impacts on commuter choice, although the alternatives for many car drivers would be to sit in the same queue on the M77.

Figure 75: Bus Time Reliability - X76 AM Peak Southbound

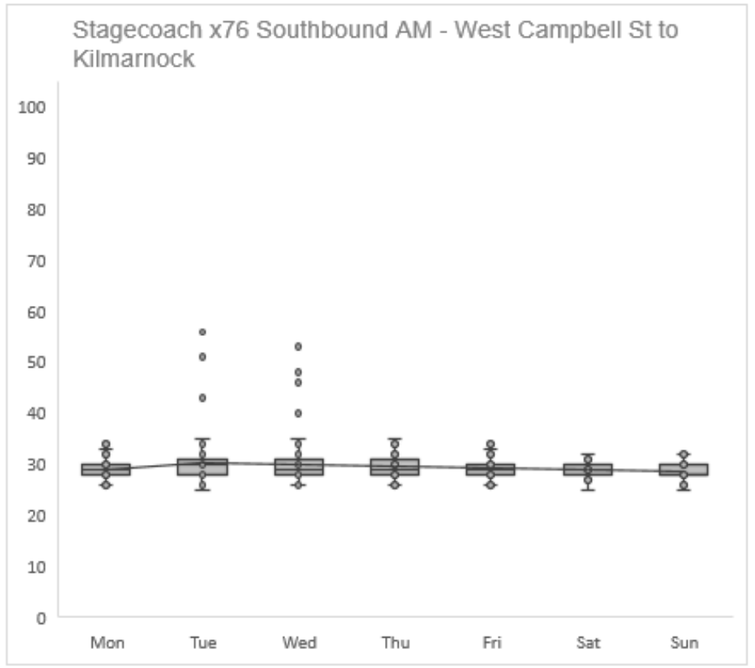
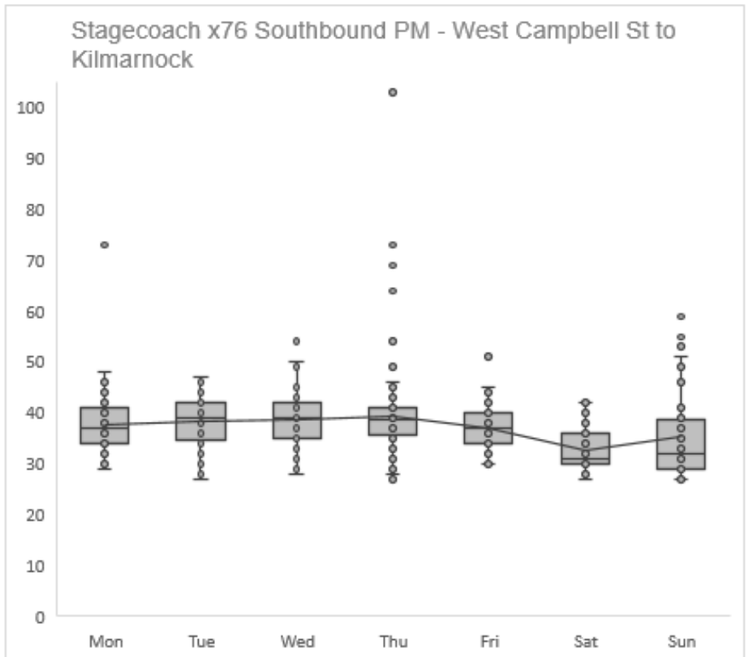


Figure 76: Bus Time Reliability - X76 PM Peak Southbound



B.2.3 From this analysis of the X76 the following observations can be made:

- It is evident from this analysis that there is travel time reliability issues with this service along the M77 during the AM Peak in the Northbound direction
- Tuesdays in particular show a wide variance in travel times as illustrated by the elongated boxes
- Travel times are slightly more reliable on a Monday and Friday when general traffic flows are observed and accepted to be lower
- The PM Peak northbound and AM Peak southbound highlight no real issues, with times relatively reliable as expressed by the tightly constrained boxes, almost straight median line and close correlation with the designated timetable time
- Although not presented, travel times in Inter Peak display a good level of travel time reliability on par with those for the AM Peak southbound
- The PM Peak southbound does highlight some reliability issues, however, to much lesser extent than the AM Peak northbound, which again could tie into the varied working practices and flexible departure times.

B.3 38 Service

Figure 77: Bus Time Reliability - 38 AM Peak Northbound

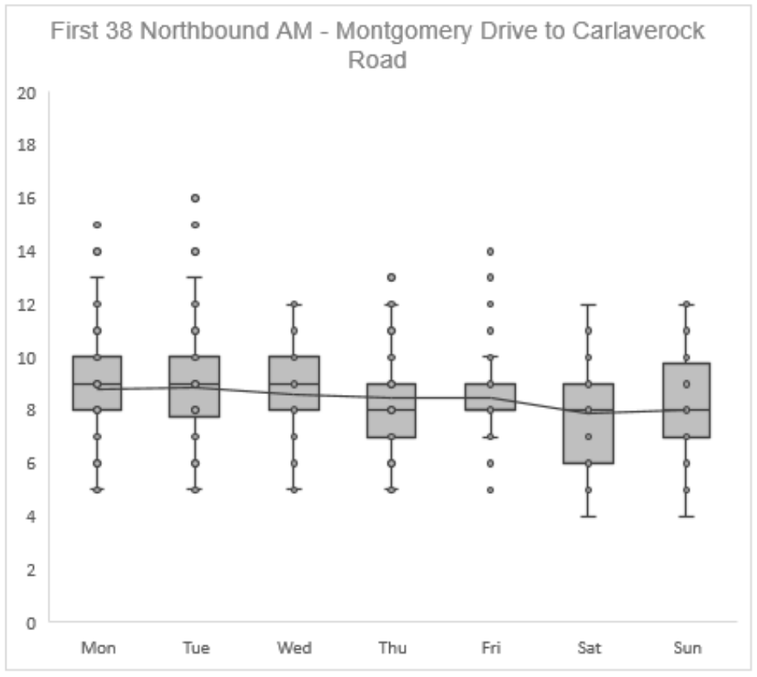


Figure 78: Bus Time Reliability - 38 PM Peak Northbound

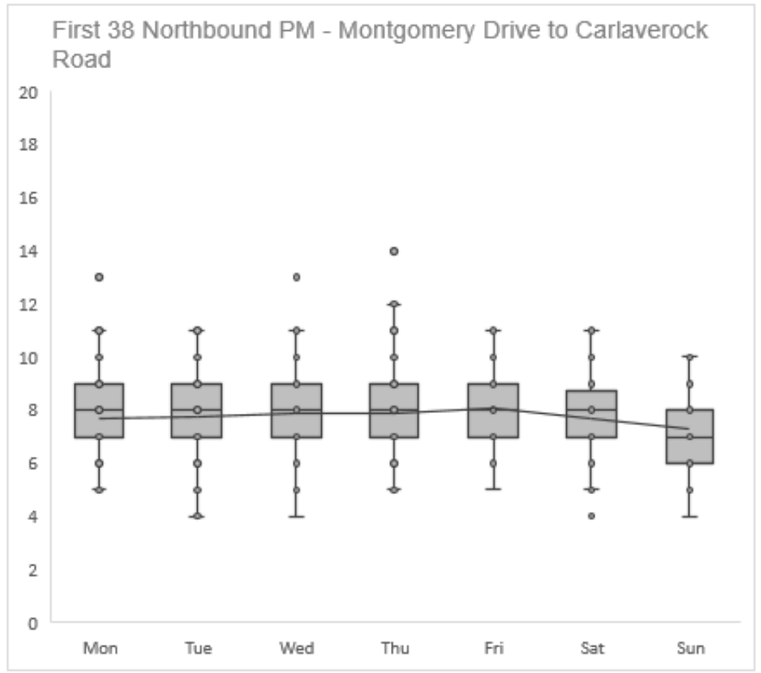


Figure 79: Bus Time Reliability - 38 AM Peak Southbound

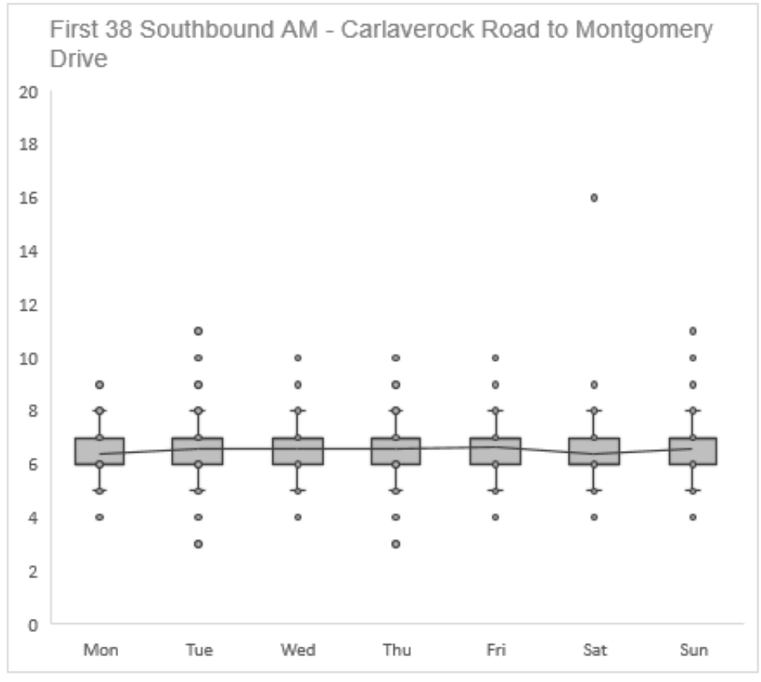
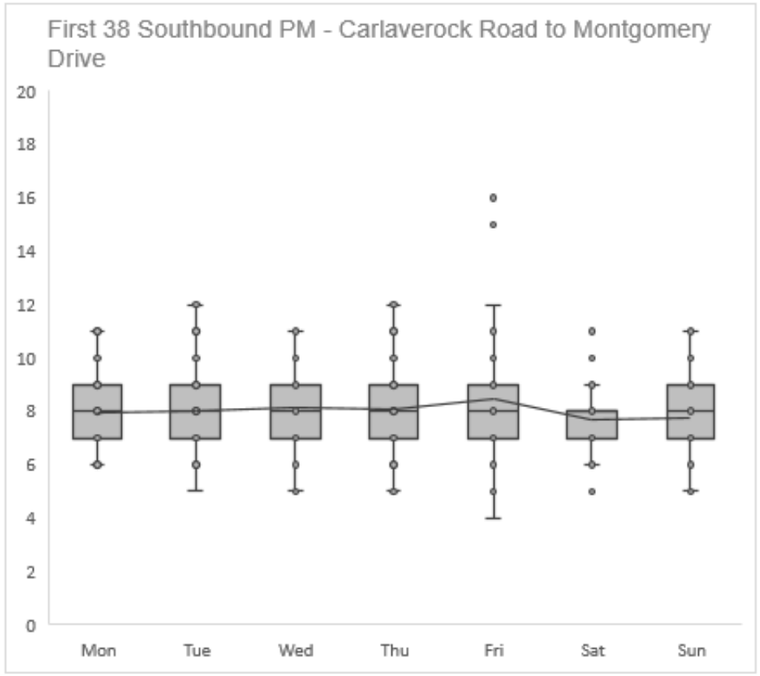


Figure 80: Bus Time Reliability - PM Peak Southbound



B.3.1 Although only considered over a short segment of the A77 corridor, approximately two miles, this service displays similar journey time reliability plots in both directions across all time periods. Only the northbound in the AM peak shows any significant variance in recorded times. However, the consistency in times across the day and in both directions conforms with the observed TomTom speeds which demonstrates no significant differentiation between observed speeds in both directions on this corridor.

B.3.2 Analysis of the remainder of this route, does however, highlight varying degrees of journey time reliability once out of the East Renfrewshire local authority area and as the route approaches Glasgow. In particular from Carlaverock Road through Shawlands.

B.4 Overview

B.4.1 This section aimed to ascertain the bus travel time reliability issues along two of East Renfrewshire's main bus corridors. Specifically, it found that:

- **M77:** There are travel time issues along the M77 during the AM Peak in the Northbound direction. The PM Peak southbound does highlight some reliability issues, however to a much lesser extent than the AM Peak Northbound
- **M77:** PM Peak northbound and AM Peak southbound experience no real issues, with times being relatively reliable.
- **A77:** Reliable journey times in both directions across all time periods, with only Northbound in the AM Peak showing any significant variance.

B.4.2 The results highlight that AM journey times into Glasgow are significantly more disrupted than other trips, with the inverse PM commuting trips experiencing relatively little disruption. These divergent bus journey times reduce the attractiveness of public transport and result in people using private car to complete part of / all their journey. This paradigm goes against local, regional, and national policy guidance aspirations, and is also vulnerable to the impact of Glasgow's Low Emission Zone (LEZ) (more information can be found in Section 9.5).

B.4.3 Again, it should be noted that this data was gathered before the COVID-19 pandemic, so results may slightly differ due to revised travel habits.

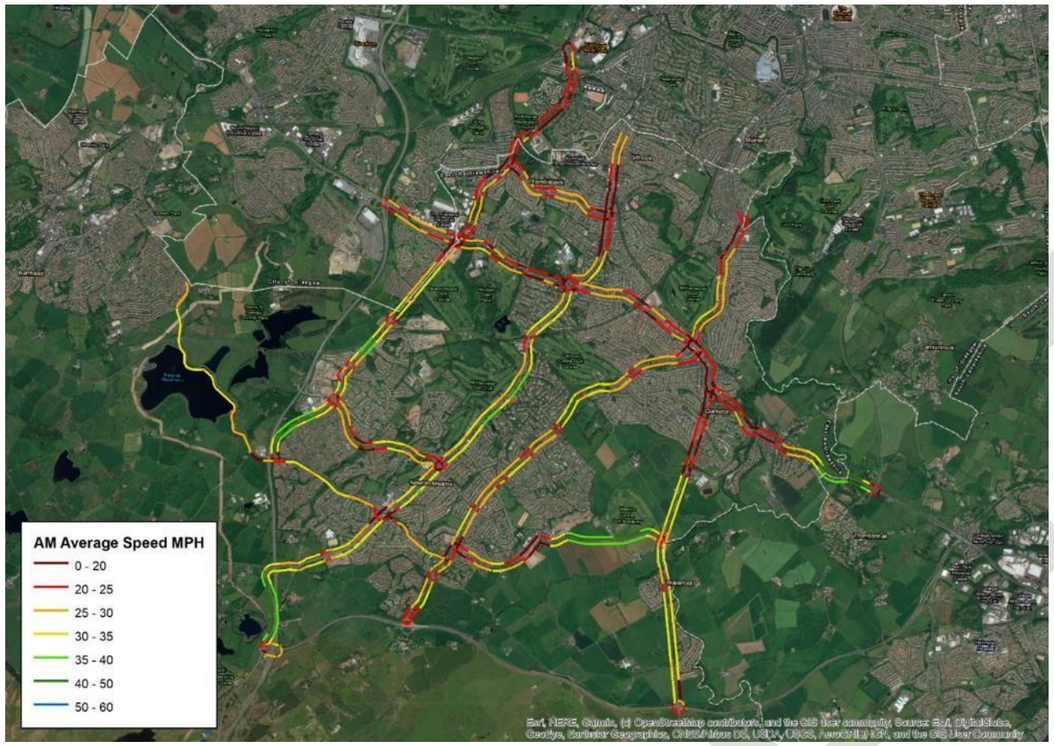
Appendix C Bus Average Speeds

C.1 Introduction

C.1.1 As part of a separate multi-use study in Clarkston, the collection of 'TomTom' data was commissioned. This data provides information in changes in travel speeds along key routes within the East Renfrewshire local authority boundary. This information was mapped for the AM Peak and PM to understand average speeds within the local network, which not only impact on car users but impact on bus journey times and the ability for these services to maintain a reliable service pattern, which in turn impacts arrival times.

C.2 AM Average Speeds

Figure 81: TomTom Am Peak Average Speeds

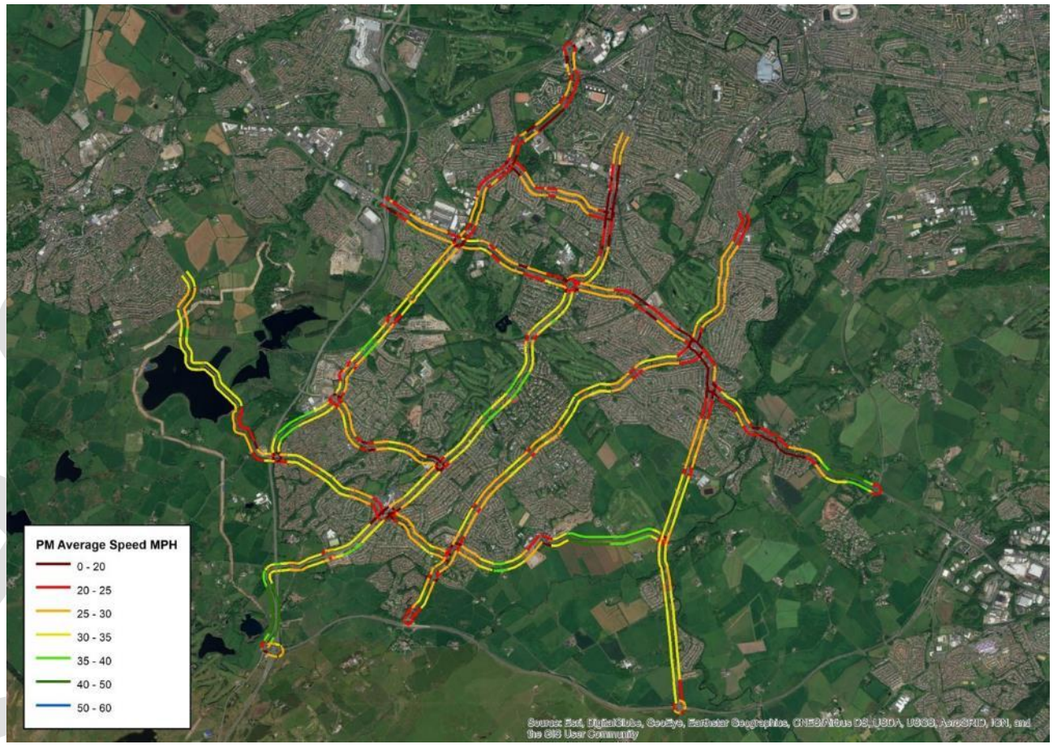


13.1.1 As can be viewed in the image above, observed speeds within the East Renfrewshire area vary significantly across the AM Peak. However, the main observations from this analysis are:

- Rouken Glen & Busby Road witnesses very low average speeds, below 20mph along its entirety from the M77 junction to Busby
- Clarkston Toll and surrounds highlights significantly low speeds on all arms which indicates elements of queuing and congestion
- Both the A77 and B769 north of Rouken Glen Road display a high concentration of low speed observations
- The road network in the north of the local authority area, in the vicinity of Rouken Glen Road, A77, B769 and B767, all highlight low average speeds in both directions, i.e. there is no clear and obvious indication of tidality flows, both directions show heavy volumes of traffic reflected in the low average speeds registered.

C.3 PM Average Speeds

Figure 82: TomTom PM Peak Average Speeds



13.1.2 The PM Peak observations, in places reflect the observations recorded in the AM period, however, to a lesser extent. Clarkston Toll and the A77 retain low average speeds, while the rest of the network displays a slightly freer flowing network than the AM Peak. This could possibly be related to changes in working patterns, flexible working and varied work departure times. In the AM Peak, people still focus on a work arrival time of 9am, whereas in the PM Peak, people are more flexible for departing work, or will adjust their working hours to avoid known congestion.

C.4 Overview

The analysis showed potential challenges with regards to reliability of travel times through the local authority area and with low speeds observed along many key corridors. Journey time variability is significantly greater at the AM Peak (0800-0900 hours) with increases as much as 51% when compared to 0900 – 1000 hours. This is particularly prevalent for northbound traffic. Consequently, the overall attractiveness of travelling by bus in the AM peak is likely to be low and could impact potential patronage uptake. This unreliability also hampers the operation of logistical activities such as long-distance freight and delivery services. Policy should therefore focus on reducing the number of private car trips within the area to alleviate demand –and provide subsequent capacity – on East Renfrewshire's road network.